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Limited to the problem of how to make the best use of existing plant facilities and plan future needs for a country school system, evaluative criteria and standards for existing school buildings with respect to safety, health, space, integration, and flexibility requirements are suggested. A classification scheme for describing facilities based upon building age and ranging from sound facilities with an expected use of up to at least thirty years to facilities recommended for immediate abandonment is discussed along with relevant criteria for each category. Descriptions of school facilities in Warren County follows based on the findings of a study team. The descriptions give an image of each school plant, with sufficient detail to enable the reader to group the units into the classification scheme suggested. Diagrams which represent the quality and utilization of space in the various facilities are included. A review of the total problem of school facilities in Warren County concludes with a discussion of capacities (theoretical and realistic), a rating of facilities, a statement of present needs, a projection of needs to 1975, and the resources available to the district for meeting these needs. Alternatives available to the district are discussed, recommendations are made, plans are suggested and contrasted. (FPO)

BULLETIN

SCHOOL PLANTS OF WARREN COUNTY



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"The rarest courage is that required to write one's own equation"

—George Santayana

We are indebted to the Warren County Board of Education for special permission to publish the report herein. Willingness to stand in the spotlight of open evaluation is, in our opinion, something that requires courage. We mix respect with our gratitude.

True, this report is no indictment of any person, much less the Warren County Board of Education. It is not, we assure readers, offered in any accusingly critical spirit. The reality cannot be overlooked, however, that the imperfections in any school system are ultimately "marked up" as in large part the responsibility of its board of education and of the citizenry it represents. We do not believe this fact was overlooked by the Warren County Board itself when it granted us the permission, nor that its members anticipated that the public would overlook it. We take it that they simply weighed the matter and were willing to accept whatever bouquets or condemnations might be the consequence.

The Bureau has long been committed to the view that the public schools should be completely "public." We hold that forthrightness and complete candor about the needs and faults of the schools are an obligation every school administration owes to the public it serves. We recognize that a piece of the truth may, in effect, be a distortion of the truth and that the problem of seeing that information is presented in a context of honest intent and meaning is troublesome for anyone who makes openness his policy. We recognize, too, that release of fragments of information may have the same confusing effect upon public thought as do gossip, rumor, and sensationalize reporting. We recognize that informing the public about their schools is not just shouting facts from the housetops or hawking headlines about the schools on the street corners.

The Bureau's work in its surveys is aimed at bringing together the relevant information regarding a school problem and at giving that information a meaningful context and completeness. Such was the intent in this study. If this report has helped the Warren County Board of Education understand its problems better and explain those problems to its public with some clarity, accuracy, and honest force, it will have served its purpose. We hope that to some degree this purpose is fulfilled.

—PAUL STREET, Director
Bureau of School Service

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School Plants Of Warren County

A Survey of the Needs for School Facilities
in a County School District

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Volume XXXVII March 1965 Number 3
BULLETIN OF THE BUREAU OF SCHOOL SERVICE
College of Education, University of Kentucky, Lexington

FOREWORD

The report which follows is offered as an example of the work of the Bureau of School Service in a school district survey. It is to be regarded as an example, not a model.

We call the reader's attention to some points:

1) This report is not of a comprehensive survey. Rather, it is a report on a particular problem: *a crisis in the building needs of the school district*. This problem, however, is obviously not isolated from other problems which had to be pursued as they were relevant to the problem of the study team's assignment.

The Bureau of School Service does different kinds of studies, but typically a study has the "problem" focus which this one illustrates.

2) This report is a mixture of judgment with facts. It includes frank editorial opinion. It may be indicted by those who insist that complete objectivity, detachment, and independence from bias are *scientific* criteria which ought to be strictly respected in such a study.

The Bureau does indeed value the scientific disciplines as applied to its studies. They are regarded as *tools*, however, not as *ends*. The Bureau feels obliged to use whatever is available toward the end of solution of the problem under study. Objective information is presumed to be the "stuff" out of which decisions which ultimately are *rooted in values* are best made. The *value* intent in the work toward solution of the problem is not, therefore, ignored.

Basically, the Bureau's indulgence in editorializing is aimed at forthrightness. And while we are being frank, let us confess that we offer opinions *only* because *frankness* impels us to do so. We should much prefer security within the fortress of objectivity, without the risks that go with venturing into judgments and hazardous conjectures—the risks of partisan involvement, of being accused of self righteousness, of exposure when opinions turn out to be erroneous.

We hold, however, that it would be unscholarly (and even "unscientific") hypocrisy to conceal the fact that we have opinions. We hold that those with whom we work have a right to know not only what we see and measure but what we *feel* about what we see and measure.

We have attempted, therefore, to deal with both *fact* and *judgment*, to separate the two clearly, and to label each respectively as such.

3) The Bureau is concerned with helping school administrations

and citizens of school districts make wise decisions—not with preempting their responsibilities for doing so.

Some may question the Bureau's presentation of four (rather than one) pattern of recommendations at the conclusion of this report. Some may regard the offering of options as bespeaking equivocation, indecisiveness, and shirking of the responsibility for the forthrightness expounded in principle in the statement above.

It must be confessed that while the Bureau has some strong convictions about guiding principles (in school reorganization, for instance) it does not conceive that there is only one way to apply those principles. Indeed, experience has brought considerable humility regarding what is the best way to apply principles. Perhaps experience has taught us to flinch at the prospect of being required to be specific—or destroyed our faith in our crystal ball! In all honesty, however, we offer four options, with certain advantages which we sought to define as inherent in each, by which we are convinced the Warren County district could move toward solutions to its problems with reasonable expectation of success. Any one of these options or some carefully planned blend of them, would, we believe, be feasible and justifiable. Furthermore, we believe that within these options is a latitude for freedom to make decisions without explicit instruction from us which is properly the prerogative of the Board of Education of Warren County School District. As a matter of principle, we are jealous of this prerogative for all local school boards.

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**DEPLOYMENT OF SCHOOL PLANT FACILITIES
IN THE
WARREN COUNTY, KENTUCKY, SCHOOL DISTRICT**

**A survey by the Bureau of School Service
College of Education
University of Kentucky,
Summer 1964**

The Bureau of School Service was engaged in May 1964 to study the schools of Warren County in order to advise the board of education of the district regarding school plant needs and possible relocation of facilities. The study was to be limited to the problem of how to make the best use of existing plant facilities and plan for future needs. Curriculum, program scheduling, transportation, financing, etc., were of concern only as they related to the problem of providing adequate school plant facilities.

The Limitations of a School Plant Survey

The primary purpose of a school building is to house a school program. A school program has many elements: children, purposes, curricula, materials, teachers, administrators, and supportive accessories such as transportation facilities and school buildings. The entire program must be designed to be in accord with the peculiar characteristics of the school community. For example, if children can walk to school, buses are not needed and consequently all the complexities of transportation can be avoided. This may mean also that teachers will not be called upon to supervise children before and after the regular teaching day and will have more time to plan their work. If on the other hand, however, the cost of providing a sufficient number of adequate schools to enable all children to walk to school is prohibitive, then the appropriate school location must be selected with great care. In the final analysis, therefore, the number of schools and their location depends largely upon the amount of financial resources available.

The school program must also be designed in relationship to the adequacy or inadequacy of the supporting accessories, particularly the school building. Logically, perhaps, a community would plan the most desirable school program first and then construct the necessary buildings to house it properly. Such a possibility just does not exist in most places, and certainly not in Warren County. The community, and

the Commonwealth of Kentucky, have too much invested in present buildings to abandon those which are usable and start over.

Thus Warren County really has no alternatives: those buildings which are adequate for the kind and quality of school program which the citizens want must be maintained, and those which are inadequate must be abandoned and replaced. Only so can the educational interests of the county be served adequately. The Commonwealth also has an interest, both educational and financial, in the Warren County schools and must therefore protect this interest by insisting that certain minimum standards be maintained.

The staff of the Bureau of School Service, like all human beings, have certain biases, specifically here biases regarding school programs. Also, these biases extend to the types of buildings which are envisioned as adequate housing for these programs. However, using certain widely accepted concepts of what "good" school programs are, and similarly widely accepted school building standards, the staff have attempted to be as objective and unbiased as possible in its study.

Actually, who can say what will be desirable in school programming—or in buildings for that matter—ten, twenty, thirty, or forty years from now? Therefore, all the Bureau can do is project program and building needs on the basis of what seem presently to be developing trends in American education. Both the present and the future have to be considered carefully and the best judgments available applied to the end that the present generation of children in Warren County, as well as those yet to come, may be provided with the best opportunities for an adequate education that the district can afford.

This point should be noted:

The Bureau of School Service has no authority whatever in Warren County school affairs. Unlike some legally constituted agencies of state government, its only "power" is in the counsel it provides—counsel which is not likely to influence those who have authority except as it is based on evidence and reason. The Bureau could not, if it would, pre-empt the authority or responsibility of either local or state authorities; the Bureau's advice has none of the force of law or regulation. No part of this report, therefore, should be taken to excuse either the Warren County board or any state agencies from their responsibilities. This report is meant, therefore, to advise the Warren County school administration and citizens on ways to improve their schools—within the latitude provided under state laws and authoritative regulations.

BASIS FOR JUDGMENTS OF SCHOOL PLANTS

As just pointed out, a school building has just one fundamental purpose: *education*. It is a teaching tool.

Of course a school building should be attractive, safe, healthful for occupants, even comfortable and convenient. Only so can it provide an environment which supports effective teaching and learning. Only as such qualities in a building contribute to teaching and learning, however, is it a "school" building. As members of the Bureau of School Service survey team visited the school buildings of Warren County, they attempted to keep in mind those principles which are essential in judging a school plant in terms of the purposes it is to serve. Some of those principles were:

I. *Safety*:

Obviously, safety is a prime consideration, both educationally and for the fact that a school administration has a crucial *moral*—and in some cases—*legal*—responsibility for the security of boys and girls. "How *safe* is *safe*?" is, of course, a troublesome question, for there is no absolute security. Nevertheless, standards which relate to making a building *more* safe, or reasonably safe in comparison to others, are applicable.

The maintenance of minimum levels of safety is a concern of certain inspection agencies of the State. The Bureau attempts, therefore, to advise by standards that are *more than* minimum, assuming that the district seeks improvement above minimums with due consideration for costs and wise use of resources.

In its visits the survey team sought to answer such questions as these:

- 1) Is the building of reasonably fire-resistant materials? If not, are arrangements such that there is no possibility of occupants being "trapped" in an emergency?
- 2) Is the pupil traffic channeled adequately? Are corridors and doorways wide enough? Are there obstacles or hazards, such as "blind spots," step-downs, unlighted stairs, traffic crossings, or doors with unsafe glass? Are ground-level exits available on all floors and at ends of corridors—especially in non-fire resistant buildings? Do classroom doors swing outward?
- 3) Is the heating boiler properly isolated from rooms used by students (since more than one-third of fatal accidents in schools involve explosions)?

II. *Health*:

Health, like safety, is a top-priority consideration. It is worth considering that both health and safety represent principles the school

is expected to teach pupils, and certainly its teaching is likely to be ineffective if it does not provide a safe, healthful setting for the instruction. Following are questions to which the survey team sought answers in its visits to Warren County schools:

- 1) Are water supplies safe and sewage disposal arrangements adequate and satisfactory?
- 2) Are washroom facilities adequate? Drinking fountains?*
- 3) Is lighting adequate? (The minimum standard for new school buildings in Kentucky is 30 foot-candles for close desk work. Since the Bureau team's visits were on bright days, even more bright than typical, readings were made with the observer's back to the windows but with lighting on, the effort being to get a reading representative of the desk of a student who sat far from the windows on a cloudy day.)
- 4) Are heating and ventilation satisfactory? (Since the visits were during the summer months and no observation of adequacy of heating plant could actually be made, the study team solicited reports from principals and maintenance personnel. Outside windows were available in most classrooms, and these were assumed to provide adequate ventilation when properly adjusted.)

III. Space

How much is enough space for a pupil is always a debatable issue. Standards range from 20 to 30 sq. ft. per pupil in a classroom, with the question sometimes unanswered regarding whether cloak-room and locker-storage spaces (or even washroom facilities in self-contained classrooms) are to be included in the calculation. The capacity of a one-room school with stove heat, for instance, may be measured generously if the space for the stove is counted as space for pupils, or *vice versa* if the space the stove takes in zero weather is subtracted from what is left for the pupils.

The Bureau actually applied a rule of thumb in judgments made in this report. It assumed that the "regular" classrooms of the district (which measured on the average some 660 sq. ft.) were adequate for 30 pupils. About half the rooms were a bit smaller (and half larger) and generally on the "skimpy" side—but not seriously so.** That is, the problem was more generally the number and quality, rather than the size, of classrooms.

As just pointed out, the method of counting pupil spaces used in this report assumed that the number of "regular" classrooms was an

* Fountains should be on each floor in elementary buildings, with heights such that small children can reach them. Also, toilet facilities should be adapted in height and should be available to small children on the same floor as their classrooms.

** Kentucky Department of Education recommendations call for 30 sq. ft. per elementary and 25 sq. ft. per high school student in the classroom.

index to the capacity of a school building. Someone is sure to say: "What about special classrooms? Don't they provide pupil spaces?"

The answer is that while special classrooms do provide space, they should not be counted in estimating by standards for a modern, balanced school program. The elementary program generally operates in comparatively self-contained "regular" classrooms, though some special facilities for library, art, music, health and special activities are desirable. The school program is not "in balance" if such "accessory facilities" either within or in addition to the regular classroom, are not available. The high school, of course, has more special activities as well as special subject requirements, so that science and foreign language laboratories, vocational shops, guidance facilities, expanded library, gymnasium and auditorium facilities become critical. High school students usually have one period in six for study—which should leave a classroom "free" one-sixth of the day for the teacher to do planning and prepare materials and demonstrations. Also, regional accreditation standards for the high schools require a ratio of not more than 25 pupils to each staff member. Furthermore, State Department of Education accreditation ratings put a premium upon offering a wide range of courses—resulting both in the need for more special facilities as well as for more (and therefore smaller) classes. Assuming that a balanced program is being offered, the thirty-per-regular-classroom formula seems to the Bureau to work about as satisfactorily as any. It must be conceded, however, that a case can be made for nearly any procedure for counting, since goals affect the question greatly. The goal in the standard used here is 30 pupils enrolled per elementary class and about 25 enrolled per high school class—the assumption being that while 25 high school students are in class 5 others will be in other-than-classroom activities.

IV. *Balance of Plant Facilities*

The modern schoolhouse should be an integrated, "balanced" unit. Ideally it has a heating plant large enough to heat it but not more expensive than necessary. Its gymnasium, cafeteria, library, laboratories and the like are proportional to the student population—not "over-built," nor vice versa.

For its day, the one-room rural school was a "balanced" plant. With only the "3 R's" for a curriculum, with few books for a library, and few specimens or instruments for a science laboratory, it could provide a comparatively wholesome environment for youngsters. Water pollution, for instance, was not a general problem until population pressure produced it. Neither was sewage disposal. Even now, the outdoor privy is more readily acceptable in small schools than in

large, though it should be pointed out that such diseases as diphtheria and typhoid took their toll in earlier days even when water supply and sanitation were more simple problems than they are now. (With the prospect that the nation's population will double in the next forty years—with water already having to be re-purified for re-use in many areas—the problem of sanitation is one school districts cannot ignore.)

More fundamental, however, is the reality of changed needs in education. The "explosion of knowledge" and the consequent need for a school program to fit youngsters for life in a world of unprecedented technological complexity require a school with special supplementary facilities beyond "regular" classrooms. To expect a school to operate today without adequate library and laboratories is like expecting a farm to be efficient without power tools or planting and harvesting equipment. Ideally a school plant is "in balance" when it has enough (but not too much) of:

- 1) Regular classrooms (of adequate size) to contain all pupils (at whatever pupil-per-room ratio is acceptable—in this case, 30 per regular classroom.)
- 2) Playground, gymnasium, auditorium, library, laboratory, etc., facilities to serve the student in his various study and activity program needs.
- 3) Corridor, bus-loading, and general site space so that traffic may be maintained with safety and without confusion. (Also, enough storage space so that other areas need not be converted to storage use.)
- 4) Facilities to serve health and safety needs: washrooms, shower and dressing rooms (in connection with gymnasium), cafeteria, heating and ventilating equipment.

In general, the larger the enrollment the greater will be "accessory facility" requirements beyond the "regular" classrooms. A multipurpose room may be satisfactory in a small school, whereas in a larger one it may become a "bone of contention" among competing activity groups who want to use it at the same time. The concept of a "balanced plant" is easily understood; the exact point of balance is, however, difficult to define. Symptoms of a school house's being "out-of-balance" appear when housekeeping gets shabby—as when toilet facilities are overcrowded, or students must use corridor space for study, or when the library or storage or corridor or gymnasium must be used for storage of books or equipment. Sometimes these things are nothing but "poor housekeeping"; sometimes, however, even a little overcrowding or imbalance in facilities generates poor housekeeping and, in turn, high maintenance costs which are a consequence of the poor housekeeping. That is, things get to "chasing" each other so that a vicious cycle of deterioration results.

Evaluating plant balance, unfortunately, requires judgment. The

Bureau staff seek to explain in this report why they made judgments of balance as they did.

V. Flexibility:

A school building is not built to meet present needs alone. If the average life of a building is about fifty years, then a considerable amount of prognostication is necessary in planning construction. What may be quite adequate as a "regular" classroom now may be something less in 1990. Who can say? Therefore, in any consideration of buildings, either presently available or anticipated, some emphasis and study should be given to ways and means of modifying and adapting school buildings to keep them useful as educational needs change.

Flexibility also applies today as well as tomorrow. If present building spaces can be rearranged to fit new needs, then rearranging may be more feasible than erecting an entirely new building. Or, if what is now a "regular" classroom which has some structural limitation can be converted into needed storage space while a more satisfactory classroom can be built, the conversion may be more economical in the long run.

The questions which arise from the need for flexibility are numerous, to be sure. Ignore them we dare not; for such things as population shifts, changes in program, and the future financial status of the district require us to try conscientiously to provide for tomorrow as well as today.

Efficient Use of Facilities:

Some principles which go with efficient use of facilities appear in the discussion above of plant balance. Obviously, distributing facilities so that investments are in proportion to needs makes for efficiency. On the other hand, providing a "balanced" plant for only a few students or using a plant for purposes for which it was not designed is wasteful, especially if flexibility was not built into its design.

As just suggested, per capita-student costs for a good school program tend to go up as enrollments in a given school go down (to a point). Assuming, for example, that a school board wishes to provide good libraries equally to all children of the district, it may decide that every child should have access to a modern encyclopedia. If it buys a 400-dollar set for a one-room school of 20 youngsters, it pays \$20 per pupil for a set which, if properly treated, will be out of date before it is worn out. If the school's enrollment is 200 students, its per capita student investment is only \$2—and the encyclopedias will probably, if properly treated, last until they *should* be replaced. This same prin-

ciple applies to all capital outlay for education. It is not prejudice which keeps a school board from putting science equipment, good libraries, gymnasiums, cafeterias, auditoriums, and the like at one-room rural schools. It is not that they would deny these things to youngsters in rural areas. It is just good common sense—the plain fact that per capita-student costs would simply be outrageous. Of course, this is an extreme example. However, it illustrates the problem: How can educational resources be deployed in such a way that the district gets the most for its money? How can students be grouped to make fullest use of facilities now and in the future, so that the greatest return, in terms of educational effectiveness, may be realized for the tax dollar?

The answer to these questions requires going a bit beyond a study of buildings themselves into consideration of programs, transportation, and costs as related to size and organization of school.

Arbitrary Classification of Facilities:

For purposes of clarity, buildings (or parts of them) are classified into four groups in this report. Using the objective data gathered for a description of each school plant, the Bureau staff attempted to give the descriptions meaning by these classifications:

Group I

These are facilities which represent sound, reasonably satisfactory investments which the district may expect to make use of for some years.* To fit this group, a building should be of fire-resistant interior, be arranged for safety of egress in case of fire, and be adequate in lighting, sanitary facilities, and ease of maintenance.

Group II

These are facilities which are still usable but which are due for replacement or abandonment in the foreseeable future (say, in the next ten to fifteen years) so that plans should begin soon for their replacement. They are represented by buildings rather expensive to maintain but fairly usable if well maintained.

Group III

These are facilities which need replacement now; however, for practical reasons, their use is approved until new facilities can be built if started immediately.

Group IV

These are facilities we advise be abandoned immediately, with arrangements made for housing students elsewhere.

* Since ordinarily a school building lasts about fifty years if built by acceptable standards in the first place, a building twenty years old may be calculated to last about thirty more.

DESCRIPTIONS OF SCHOOL PLANTS OF WARREN COUNTY

The descriptions which follow are sketches, not complete in detail. They are based on much more complete memoranda gathered by the study team. These sketches are meant to give the reader an image of each school plant, with essential details enough to support the image on points relevant to grouping the building units into the four categories just described.

ALVATON (Grades 1-12. Enrollment: 676.* Site: 21¼ acres.)

The Alvaton school plant for grades 1-12 occupies a 21-acre site in the southeastern part of the county. Its oldest building dates from 1936. To it a substantial unit was directly attached in 1956, after another unit of four temporary classrooms had been set up in 1950-52. This unit is now connected to the main building by a wooden "breezeway." The agriculture shop and classroom make up a separate building, as do the "old cafeteria" which has been converted to classroom use, and the new "prefab-portable" classroom placed on the site in 1962. All except the prefab-portable are heated by the central steam-coal system located in the original unit. The boiler is placed a few feet below the bottom-floor classroom level. There is insulation on the ceiling over the boiler, and the plant has an integrated alarm system.

Original Unit (1936)

The original unit is of two-story brick-veneer construction, that is, essentially of brick exterior and wood-and-plaster or composition-board interior, except for the semi-basement (first floor) where concrete provides walls up to window levels, the windows being generally above ground.

This unit provides: a small (128 sq. ft.) administrative office, some cafeteria storage, a library, a home economics area, a gymnasium, a science room for which facilities are to be connected before school opens this fall, and 4 regular classrooms.

The library is actually a converted classroom, with substandard lighting (12 foot-candles) and without the recommended separate work room with running water for the librarian's use.

The gymnasium is slightly "undersize" for a high school program but adequate for an elementary or junior high school. It has the advantage of a hardwood floor, over some other gymnasiums of the county.

*Average daily membership at end of 6th month of 1963-64 school year.

The science room is in good condition, though lighting (18 foot-candles) measures below a desirable level. It is actually the same size as a regular classroom.

The four "regular" classrooms, measuring only some 660 sq. ft. of floor space in each, are on the "small" side, though not seriously so unless class enrollments exceed the conventional 30-pupil standard. Lighting, however, is only poor to fair, ranging from 12 to 18 foot-candles.

Addition of 1956

The addition of 1956 is joined to the original by a short, concrete stairway which articulates traffic between the two. It has two stories with concrete floors (covered by a modern composition "tile") and brick exterior over masonry walls. With metal window sash and built-up roof—though the roof has wood support—and accoustical tile treatment on ceilings, it is to be regarded as a modern, adequately "fire-resistant and safe" unit. In it are washrooms for both sexes on both floors.* These serve the entire school plant (except for those in the gymnasium).

This unit contains 5 regular classrooms (again on the "small" side, with only about 660 sq. ft. in each), the wash-room facilities just mentioned, an ample 9-foot corridor, and the kitchen and cafeteria.

The cafeteria seats some 150 students, has kitchen and eating spaces properly separated, has adequate storage (with a "walk-in" refrigerator actually in the old building) and air conditioners for both spaces.

"Temporary" Unit (1950-1952)

This unit is comprised of 4 "small" classrooms (about 600 sq. ft. in each) in wood-frame construction, with wood and asphalt-composition roofing and composition-board inside walls. A small storage space is provided off each classroom, "expanding" its capacity a bit. Classrooms are in pairs, two sharing a common entry area and an outside door. Lighting is below standard, ranging from 10 to 15 foot-candles. Wash-room facilities are available across the "breezeway" mentioned as connecting this unit to the first two.

Agriculture Shop and Classroom

This unit is separated from the others, is of concrete block construction with concrete floor, steel-frame windows, and wood-supported asphalt-composition roof. It includes one large classroom (approx-

*There are 3 toilets, 4 urinals, and 4 basins for boys; 6 toilets and 4 basins for girls, on each floor.

mately 990 sq. ft.) and a large farm-shop area of some 1,450 sq. ft. The ceiling of the classroom has accoustical tile treatment. There is space above the shop and classroom which is appropriate for storage only, not for use as a classroom.

"Old Cafeteria" Classroom

This separate unit, actually a cafeteria converted to classroom use after the 1956 addition, is of wood-frame construction with asphalt-shingle siding and roof of asphalt composition on wood, with wood-frame windows and composition-board interior walls. While light measurement was only 18 foot-candles, the fact that windows are on three sides suggests that light may be reasonably good for students, since none will sit far from windows. The classroom (the whole building) is of fair size (about 790 sq. ft.). There are no washroom facilities in the unit.

"Prefab-Portable" Unit (1962)

This is a typical "portable" and "temporary" classroom, of some 700 sq. ft., with excellent lighting (43 foot-candles), electric heat, metal-sash windows, composition walls, and linoleum on composition floors. No washroom facilities are in the unit.

Summary Observation:

There are 18 classrooms of which only 12 rooms are permanent. The original unit has substandard lighting and the library room is inadequate in size.

BOYCE (Grades 1-8. Enrollment: 43. Built: circ. 1935. Site: 2 acres.)

The Boyce school plant for grades 1-8 occupies a 2-acre site in the southeastern part of the county. The actual date of construction is unknown; however, it is believed to have been built in the mid-thirties.

The unit is of one-story, brick-veneer outside walls and wood-and-plaster interior walls, with "outside plumbing." The water is provided by a cistern. The roof is tar shingle, the ceiling of wood. Heat is provided by coal heaters, one in each room.

This unit provides two classrooms each measuring 620 sq. ft. of floor space plus 98 sq. ft. in a cloak room adjacent to each. The lighting is inadequate.

Summary Observation:

There are 2 classrooms. Lighting is inadequate. There are no plumbing facilities.

BRISTOW (Grades 1-12. Enrollment: 524. Site: 4.38 acres.)

The Bristow school plant for grades 1-12 occupies a 4- to 5-acre site in the northcentral part of the county. The agriculture shop and classroom make up a separate building as does the gymnasium. The original unit is heated by the central steam-coal system, the boiler located in the basement beneath a first-floor stage and a second-floor classroom. The gymnasium and agriculture buildings are heated by blower-type units. The heating plant is reported as inadequate.

A septic tank with an open "sink hole" for overflow, is provided for the inside sewage from the agriculture building, the gymnasium, and the cafeteria. Outside privies are provided for general student use. The water supply is adequate (a deep well with filter facilities on the ground).

Original Unit (1929)

The original unit is of two-story brick-veneer construction; that is, essentially of brick exterior and wood-and-plaster or composition-board interior, except for the basement where concrete provides walls up to ground level. The basement is constructed on two levels with classroom windows below ground level in the sub-basement section.

This unit provides: an administrative office, a small (720 sq. ft.) cafeteria-kitchen, a small (550 sq. ft.) home economics room, a science room with no special facilities, a small (280 sq. ft.) typing room, and 9 "regular" classrooms of various sizes.

The cafeteria seats 54 students, has an open kitchen-dining room arrangement with limited storage space.

The library is actually one end of the corridor, used only for storage of books, not for reading. It represents an obstacle to reaching the fire escape from the upstairs corridor.

The 9 regular classrooms, measuring only some 550 to 725 sq. ft. of floor space in each, are on the "small" side. Lighting is only poor to fair, ranging from 10 to 20 foot-candles. There are no washroom facilities in this building. Outdoor privies supplement the limited facilities provided in the gymnasium.

Gymnasium (1946)

The gymnasium is of "Warren County" design; that is, masonry exterior and some glazed tile interior. Typically, there is a stage at one end with small dressing rooms in the wings, with adequate main entrance and exits on both sides of the opposite end. This unit provides 2 small washrooms* and also two rooms with shower facilities

*There are 1 toilet, 1 urinal and 1 basin for boys; 2 toilets and 1 basin for girls.

for the physical education program. There are 10 showers, 1 toilet and 1 basin in each shower room.

The stairs are concrete and the floor is asphalt on concrete. Beneath the gymnasium stage, with outside entrance, is a small room (about 515 sq. ft.) which has been used for various purposes—study hall, music, reading. It has concrete floor, is poorly lighted and damp.

Agriculture Building (1951)

The agriculture building is of concrete block construction with concrete floor, metal-frame windows and wood-supported, built-up roof. It includes 1 classroom (650 sq. ft.) and a large farm-shop area of some 1,736 sq. ft. A washroom is attached to the farm shop, with a "shop" hand basin, urinal, and toilet.

The classroom floor has an asphalt-tile surface, and the ceiling has an accoustical tile with adequate lighting.

Summary Observation:

There are 13 classrooms in all, of which the typing room is too small for a regular class. The lighting is substandard throughout. The library must be removed from the corridor to make the fire escape available in an emergency. The corridor should be cleared and all safety factors checked. Washroom facilities are inadequate.

DELAFIELD (Grades 1-8. Enrollment 375. Built: 1961. Site: 10 acres.)

The Delafield school was constructed in 1961 for grades 1-8, on a 10-acre site in the central part of the county on the western edge of Bowling Green city limits. The heating plant is a gas-fired, steam system located on the ground level. There is an integrated fire alarm system. City water and septic tank are provided. The washrooms adjoin the boiler room.

The unit is of one-story brick on masonry, with composition-tile floor over concrete. The building has a composition roof on steel joists, with accoustical-tile ceiling and metal frame windows.

This unit provides: an adequate administrative suite, a library, an adequate health room, a multipurpose room with attached kitchen and storage, washroom facilities for both sexes, and 11 regular classrooms.

The library has 777 sq. ft. of floor space and an adjoining work room with 255 sq. ft. of space with running water and the "usual" library arrangements.

The multipurpose room has 12 folding-table units that provide dining facilities for 240 students.

Four of the regular classrooms have washroom facilities with 1

toilet and 1 basin in each. Adequate additional washroom facilities are provided in "boys'" and "girls'" rooms. All of the classrooms have a sink and running water. The 11 rooms have 777 sq. ft. of floor space each with 40 to 50 foot-candles of light.

Summary Observation:

There are 11 regular classrooms in excellent condition in a modern, generally well-balanced plant. The entire unit is adequate for about 330 students.

HADLEY (Grades 1-8. Enrollment 114. Built: circ. 1932. Site, 2.26 acres.)

The Hadley school plant for grades 1-8 occupies a 2¼-acre site in the western part of the county. The actual date of construction is unknown; however, it is believed to have been built in the early thirties. The coal-steam boiler for heating the plant is located below the stage of the gymnasium, a separate building.

The unit is of two-story frame construction with a semi-basement. The all-wood building has tar-shingle covering on a pitched roof.

The unit provides five classrooms, a small office, and a kitchen and cafeteria. Two of the classrooms provide approximately 745 sq. ft., the other three some 630 sq. ft. each. Lighting is poor, ranging from 6 to 10 foot-candles.

There are a washroom for each sex,* ample storage for the cafeteria, and a drinking fountain on the lower floor.

The gymnasium, with wood floor, is of "Warren County" design, though without showers. Water is from a well with a cistern supplement. A sand filter is provided for sewage treatment.

Summary Observation:

This plant has 5 classrooms, a cafeteria, and a gymnasium, with adequate washroom facilities. The main unit, however, is of cheap construction and generally in poor repair.

NORTH WARREN (Grades 1-12. Enrollment: 518. Site: 5-6 acres.)

The North Warren plant for grades 1-12 occupies a 5 to 6-acre site in the northeastern part of the county. The main unit was built in 1942. The gymnasium was constructed in 1946 as a separate building. The steam-coal boiler is located in a concrete room in the basement under a classroom. The main building is a three-floor concrete structure with metal-frame windows and wood-joist built-up roof. It uses the city water and sewage system.

* For boys, 3 toilets, 2 urinals, 2 basins. For girls, 4 toilets, 2 basins.

Main Unit (1942)

This unit provides: an adequate administrative suite, an adequate guidance suite, a large agriculture shop (1,500 sq. ft.) with an adjoining agriculture classroom (720 sq. ft.), an auditorium that seats 366 students with dressing rooms off the stage, a cafeteria, a library, a home economics suite, two washrooms,* 12 regular classrooms, and two rooms appropriate for storage only.

The cafeteria seats some 140 students, has kitchen and eating spaces properly separated, and has adequate storage and equipment.

The library is a special room with 1,100 sq. ft. of floor space, but with only 18 foot-candles of light and without the recommended separate work room with running water for the librarian's use.

The 12 "regular" classrooms are of two sizes. Eight have 660 sq. ft. of floor space; 4 have 550 sq. ft. One other room is being used for a science room, but it does not have any windows or mechanical ventilation. Also, there is a small basement room of about 250 sq. ft. These two rooms should be used for storage only.

The condition of the school is generally good. There are student lockers and a central fire alarm system.

Gymnasium (1946)

The gymnasium is of "Warren County" design, that is, native stone exterior and glazed tile and block interior. This unit provides 2 small washrooms plus shower facilities. There are 8 showers, 1 toilet and 1 basin in one shower room; in the other, 9 showers, 1 toilet, 1 basin.

The stairs are concrete, and the floor is asphalt tile on concrete.

Summary Observation:

There are 12 regular classrooms and 4 special rooms in average condition. The lighting needs some attention. The one small (250 sq. ft.) room in the basement and the windowless storage room should not be used as classrooms. The building is in generally good repair.

OAKLAND (Grades 1-8. Enrollment: 221. Site: 1.5 acres.)

The Oakland School plant for grades 1-8 occupies a 1½-acre site in the northeastern part of the county. Its oldest structure dates from 1926. A substantial unit was directly attached to it in 1954 by an inside corridor. The entire structure is heated by a central coal-steam system with the boiler located under the corridor and library. A septic tank with field takes care of sewage. Water is supplied by a well.

* For boys, 5 toilets, 3 urinals and 2 basins; for girls, 8 toilets, 2 basins.

Original Unit (1926)

The original unit is of two-story masonry construction, is essentially of brick exterior and wood-and-plaster interior, except for the semi-basement (cafeteria and boiler room) where concrete provides walls to ground level.

This unit provides: an auditorium, a cafeteria, a small library, and 5 "regular" classrooms. The three rooms on the second floor are rather small (588 sq. ft. in two; 525 sq. ft. in the other). The two downstairs provide 657 sq. ft. in one and 775 sq. ft. in the other.

The auditorium seats 350 students, has a stage, and has adequate, well-marked exits. The cafeteria seats some 210 students, has an open kitchen and cafeteria with adequate storage.

The five classrooms are in fair condition. Ceilings are of patterned tile. The lighting is inadequate throughout the building. The rooms are of various approximate sizes as follows: 1 of 525 sq. ft.; 2 with 588 sq. ft.; 1 with 651 sq. ft.; 1 with 775 sq. ft.

Addition of 1954

The addition of 1954 is joined with the original unit as one building. It is of masonry walls, brick on block, with concrete floors and an asphalt tile surface. The ceilings are fire-resistant composition with a built-up roof. This addition is adequately "fire-resistant" and modern.

This unit provides: an adequate administrative suite, a janitor's closet, storage room, teachers' lounge, 2 washrooms* and 3 regular classrooms. The storage room houses the well and pump unit.

The classrooms have adequate lighting and are in satisfactory condition but with only about 660 sq. ft. of floor space each.

Summary Observation:

There are 8 classrooms of which 5 have inadequate lighting. The library is a storage area, inadequate for a reading room.

RICH POND (Grades 1-8. Enrollment: 390. Site: 5.38 acres.)

The Rich Pond school plant for grades 1-8 occupies a 5-acre site in the south part of the county. Its main building dates from 1952. To it a substantial unit was directly attached in 1964, the two units connected by a masonry corridor. The cafeteria dates from 1943 and the "old gymnasium" from about 1930. The boiler for a coal-steam heating system is beneath classrooms in the main structure; but it is alone in the basement, and there is insulation on the ceiling over the entire boiler room. There is a central fire-alarm system.

* For boys, 4 toilets, 4 urinals and 4 basins. For girls, 6 toilets, 4 basins.

Main Unit (1952)

The main unit is brick exterior on concrete block, except for the boiler-room basement where concrete provides the walls to ground level. The floors are concrete with asphalt tile surface. This unit provides: an adequate administrative suite with separate office for principal, public, and secretary; a multipurpose room* with a stage; a teachers' lounge; 8 regular classrooms, and 2 washrooms.**

Six of the "regular" classrooms measure only about 588 sq. ft. and have only 14 to 16 foot-candles of light. Two of these six have cloak rooms with 94 sq. ft. of space in each.

Two more of the regular classrooms, measuring about 630 sq. ft. each, have 2 rest rooms each in the cloak room (136 sq. ft. of floor space) with 1 toilet and 1 basin in each. The lighting in these two classrooms measures only 14 to 16 foot-candles.

Addition of 1964

The addition of 1964 is joined to the original by a masonry corridor and a short concrete stairway which articulates traffic between the two units. It is of one story with composition tile on concrete floors and brick exterior over masonry walls. With metal-frame windows and built-up roof on steel joists and accoustical composition ceilings, it is as modern as the electrical heat.

Old Cafeteria (1943)

This unit is separated from the others, is of wood around the dining area and stone around the kitchen area. It was an old school building that was moved in and converted to a cafeteria in 1943. The floors are concrete, windows of wood sash, the roof and ceiling of wood. Heat is steam from the central plant in the classroom section. The dining area seats about 70. The kitchen is properly separated. The two exits to this unit are narrow and open inward.

Gymnasium

This unit is separated from the others, is of wood frame with rusty tin siding and wood-supported roll-covered roof. The inside walls are wood with an open ceiling. The heat is steam from the central plant in the classroom section. The building is 60'x76'. Though it is in poor condition, it does serve as a practical play area.

* Used for auditorium, library, 5th-grade class (at one end) and storage for text books on stage. It is not a play area. The lighting is 25 foot-candles.

** For boys, 4 toilets, 1 trough urinal, and 3 basins. For girls, 6 toilets, 3 basins.

Summary Observation:

There are 11 classrooms for which the only major criticism is of 8 of them which have inadequate lighting. The multipurpose room should be used for those purposes for which it was designed, rather than for classes and book storage. The present cafeteria is undesirable. The gymnasium is unattractive but usable.

RICHARDSVILLE (Grades 1-12. Enrollment: 534. Site: 8.35 acres.)

The Richardsville school plant for grades 1-12 occupies an 8-acre site in the northwestern part of the county. Its oldest building dates from 1936, but the main unit was built in 1946. All units are heated by the central coal system located in the main unit. The boiler is in a steel-reinforced concrete room.

Classroom Unit (1946)

The classroom unit is of three-story masonry construction, that is essentially of native stone exterior with glazed tile interior halls and semi-glazed tile walls in the rooms. Accoustical tile is on ceilings of all classrooms and corridors.

This unit provides: an administrative office, cafeteria, home economics suite, library, music room, gymnasium, science room, storage room, teachers' lounge, washrooms, and 14 regular classrooms.

The cafeteria is on the first floor. It seats 250 students with extra space between tables. The kitchen has enough storage space. The cafeteria and kitchen are properly separated. There are two classrooms in the corners of the original cafeteria. One has about 635 sq. ft. of floor space, the other 594 sq. ft.; light is only approximately 18 foot-candles.

The library has some 850 sq. ft. of space and an adjoining work room with some 210 sq. ft., the latter including a sink with running water.

The music room has only 294 sq. ft. of space.

The gymnasium is of "Warren County" design, but unlike the others is part of the main building and has a hardwood floor. At one end is a stage. It has two shower rooms with 9 showers and 1 toilet, a basin, and one fountain in each. A large entryway connects the main corridor and the gymnasium public entrance.

The science room has some 588 sq. ft. of floor space with six student units that are not connected, as no water is yet available in the room.

There are 2 washrooms on each floor.* The "regular" classrooms

* Three boys' washrooms with 5, 5, 5 toilets respectively, 2, 2, 2 urinals and 5, 6, 5 basins. Three girls' washrooms with 5, 6, 5 toilets and 5, 5, 6 basins.

vary in size as follows: Eleven rooms have 588 sq. ft. of floor space, 9 with only 12 foot-candles of light each; 2 with adequate lighting. One room has 546 sq. ft. of space with 25 foot-candles of light.

The "Old Gym" Annex (1936)

The annex was built in 1936 but converted and remodeled to classrooms in 1955. It is essentially of native stone outside walls and pressed-wood interior walls. The ceilings are masonite, and the roof is tin on wood joists. Heat is provided by the central heating system of the plant.

The unit provides 4 regular classrooms having 674 sq. ft. of floor space with 20 foot-candles of light. The corridor which connects these classrooms has a door at each end, but since one is locked (closing off the old stage), it is in effect "dead end." Beneath the stage is a long, narrow farm shop (approximately 15'x55') in poor condition. The general condition inside the entire building is poor and depressing.

Summary Observation:

There are 16 classrooms including the science room and the home economics suite, in the main unit. The annex has 4 classrooms, off a closed corridor that should be opened, and an inadequate farm shop. The lighting is in need of improvement in most areas.

ROCKFIELD (Grades 1-8. Enrollment: 304. Site: 4 acres.)

The Rockfield school plant occupies a 4-acre site in the southwestern part of the county. Its oldest unit dates prior to 1931. To it another unit was directly attached in 1934. The plant is heated by a central steam-coal system with the boiler in a basement beneath a classroom, with insulation sheeting overhead.

Original Unit (1931)

The original unit is two-story brick-veneer construction; that is, essentially of brick exterior and wood-and-plaster interior.

This unit provides: a small (120 sq. ft.) administrative office and 6 "regular" classrooms.

Two "regular" classrooms, measuring only some 546 sq. ft. of floor space, are upstairs. Of the 4 "regular" classrooms on the first floor, 2 measure only 565 sq. ft., the other two, 640 sq. ft. All of these rooms have only one light fixture each, light-meter readings running 8 to 12 foot-candles.

Addition of 1934

The addition of 1934 is directly attached to the original unit. It is of one story with the same general construction as the original unit.

In it are 2 "regular" classrooms, a gymnasium, 2 washrooms and a cafeteria.

The 2 classrooms, located at the rear of the gymnasium over the kitchen and cafeteria, measure 665 sq. ft. They are similar to the classrooms in the original unit. They empty onto a small "landing" and exit down a short flight of wooden stairs which may be partially blocked by a gymnasium door which opens into the corridor leading

CLASSIFIED GROUPING OF INSTRUCTIONAL SPACES*

	Group I Rooms			Group II Rooms			Group III Rooms			Group IV Rooms		
		R	S		R	S		R	S		R	S
ALVATON Plant												
Original Unit				X	6	2						
Addition '56	X	5	0									
"Temporary Unit"							X	4	0			
Agriculture Bldg.	X	0	2				X	1	0			
Old Cafeteria							X	1	0			
Portable							X	1	0			
TOTAL		5	2		6	2		6	0		0	0
BOYCE Plant							X	2	0			
BRISTOW Plant												
Original Unit							X	10	1		1	0
Gymnasium	X	0	1								0	1
Agriculture Bldg.	X	0	2									
TOTAL		0	3					10	1		1	1
DELAFIELD Plant	X	11	1									
HADLEY Plant												
Original Unit							X	5	0			
Gymnasium	X	0	1									
TOTAL		0	1					5	0			
NORTH WARREN Plant												
Main Unit	X	12	4								2	0
Gymnasium	X	0	1									
TOTAL		12	5								2	0
OAKLAND Plant												
Original Unit				X	5	0						
Addition '54	X	3	0									
TOTAL		3	0		5	0						
RICH POND Plant												
Original Unit	X	8	0									
Addition '64	X	3	0									
Old Cafeteria							X	-	-			
Gymnasium							X	0	1			
TOTAL		11	0					0	1			
RICHARDSVILLE Plant												
Classroom Unit	X	14	4									
Annex							X	4	0		0	1
TOTAL		14	4					4	0		0	1
ROCKFIELD Plant												
Original Unit		0	1	X	6	0						
Addition '34							X	2	0			
TOTAL		0	1		6	0		2	0			
ROCKY SPRINGS Plant							X	2	0			

	Group I			Group II			Group III			Group IV		
		R	S		R	S		R	S		R	S
WARREN COUNTY												
HIGH SCHOOL Plant												
Handicapped School	X	2	1									
Main Unit	X	16	10									
Grade Sch. Annex							X	8	0			
Agriculture Bldg.	X		1									
Portable							X	2	0			
TOTAL		18	12					10	0			
TOTAL AVAILABLE SPACES IN DISTRICT		74	29		17	2		41	2		3	2

*These are spaces which are or could be used for classes; i. e., in addition to general-purpose classrooms, gymnasiums, libraries, home economics, science and agriculture classrooms. Auditoriums, guidance or administrative suites are not included.

R = "Regular" classroom.

S = "Special" classroom (specifically: agriculture shop, agriculture classroom, commerce, audio-visuals, science, music, home economics, gymnasium and library--provided they are specially equipped or located for special purposes).

to the exit.* The light in each is supplied by two fixtures but measures only 6 to 12 foot-candles.

The gymnasium is adequate for a grade or junior high school. A stage is provided. Attached to the gym about 1952 is a unit providing toilet facilities for the entire school. It includes 2 washrooms** which adjoin the center section of the gymnasium. Also, there is a small shower room with 3 shower heads.

The cafeteria is located in a semi-basement at the end of the gymnasium. The kitchen is semi-separated from the cafeteria. The seating capacity is about 80 students.

Summary Observation:

There are 8 classrooms, with substandard lighting throughout the building. One of these serves both as library and classroom.

ROCKY SPRING (Grades 1-6. Enrollment: 19. Built, circ. 1925. Site: 2 acres.)

The Rocky Spring school plant for grades 1-6 occupies a 2-acre site in the eastern part of the county. The actual date of construction is unknown; however, it is believed to have been built in the mid-twenties.

The unit is one-story, frame construction with "outside plumbing." The water is provided by a cistern. The all-wood building has a tar-

* We are placing these two rooms in Group III. They could, however, be classified in Group II if proper exits were provided.

** For boys, 4 toilets, 2 trough urinals, and 2 basins. For girls, 6 toilets and 2 basins.

shingle covering on a pitched roof. It provides 2 classrooms measuring 770 sq. ft. of floor space each, and each with an adjoining storage area measuring 85 sq. ft. The lighting is inadequate. The building is heated by a coal stove in each room.

WARREN COUNTY SCHOOL (Grades 1-12. Enrollment: 836. Site: 50 acres.)

The Warren County school plant for grades 1-12 occupies a 50-acre site in the central part of the county on the southwestern edge of Bowling Green. Its oldest building dates from 1949. The grade-school section dates from 1952, the addition from 1954. The agriculture shop and classroom make up a separate building that was constructed in 1949. Two "prefab-portable" classrooms were placed on the site in 1962. The original unit is heated by the central steam-coal system, the boiler in an all-concrete room in the basement below classroom level. The grade-school building is heated separately. The plant has a septic field for sewage disposal and uses city water.

Main Unit (1949)

The main unit is of two-story brick-on-masonry construction, except for the south end of the cafeteria which, designed for expansion, is essentially of frame and asbestos shingle. Windows are of metal frame, with glass brick above windows on the main floor. Floors are wood in classrooms, tile on concrete in corridors. The roof is built-up, on wood joists.

This unit provides: an adequate administrative suite with intercom to all units, a cafeteria, an adequate gymnasium, typing room, agriculture room, audio-visual room, library, 2 music rooms, 1 science room, 2 home economics rooms, 1 teachers' lounge, storage area, 4 washrooms, and 16 regular classrooms.

The gymnasium has a stage, and a hardwood floor with enough area for two physical education groups at one time. Exits are good. There are 2 coaches' offices off the gym, each with about 216 sq. ft. of floor space. There is a shower room on each side of the south end of the gymnasium, with adequate space for physical education classes. One contains 10 showers, 2 toilets, and 1 basin; the other, 10 showers, 1 toilet, 1 urinal, and 1 basin.

The typing room has 850 sq. ft. of floor space. The agriculture room has 756 sq. ft., with running water.

A room used for audio-visuals has 500 sq. ft. of floor space. It has no windows, but a vent is located in the ceiling.

The library has 1,400 sq. ft., with a work room (388 sq. ft.), that does not have running water. The lighting in the library is only 10-12 foot-candles.

The science room has 588 sq. ft. of floor space with only about 15 foot-candles of light. An adjoining room has 350 sq. ft. for storage.

The teachers' lounge has 350 sq. ft. It includes a small washroom with 1 toilet and 1 basin.

There are 2 home economics rooms, one serving as a foods laboratory and the other for lecture and sewing.

The 16 "regular" classrooms vary in size as follows: 13 rooms have 588 sq. ft., with 15 foot-candles of light each; 2 have 651 sq. ft., with 15 foot-candles of light; 1 has 537 sq. ft., with only 5 foot-candles of light.

There are 2 washrooms on each floor.*

The cafeteria seats 265, with kitchen and dining areas properly separated.

Grade School Annex (1952 and 1954)

The grade school unit was constructed in two installments of 4 classrooms each in 1952 and 1954. It is of one-story frame construction with celotex inside walls and a built-up roof. Heat is by individual gas wall space-heaters.

The windows are wood frame. Classroom doors open inward from a narrow (six-foot) corridor that has 2 drinking fountains. The eight classrooms each have some 686 sq. ft. of floor space plus a cloak room with 92 sq. ft. Lighting averages only 10 foot-candles. This annex has washrooms for both sexes.** Corridor exit doors open outward with panic-bars, but toilet doors, when opened together, may block corridor traffic.

Agriculture Building (1949)

This unit is separated from the others, is of concrete-block construction with concrete floor, wood-frame windows, and wood-supported built-up roof. It includes one storage room (approximately 200 sq. ft.) and a large farm shop area of some 3,276 sq. ft. The light in the shop is adequate. There are washroom facilities in this building; 1 toilet and a shop-type sink.

"Prefab-Portable" Units (1962)

There are two typical portable and temporary units, each a classroom of some 700 sq. ft., the same as at Alvaton. They have electric heat, metal-sash windows, composition walls, and linoleum-on-composition floors. Lighting is excellent. No washroom facilities are in these two units.

* For boys, 5 toilets, 1 trough urinal, and 4 basins in each. For girls, 7 toilets and 6 basins in each.

** For boys, 2 toilets, 1 urinal, and 2 basins. For girls, 4 toilets and 2 basins.

Summary Observation:

There are 26 classrooms in the high school, including the following special rooms: typing, agriculture, audio-visual, 2 music rooms, 3 science rooms, and 2 home economics rooms. The lighting generally is not adequate. In addition, the grade school has 8 rooms all of which have substandard lighting. The pre-fab portable is temporarily adequate for the purpose.

HANDICAPPED SCHOOL (1953) Enrollment: 24. Site: (Part of Warren County High School site)

The Lions Club School for the Handicapped occupies a corner of the Warren County High School grounds in the southwestern edge of Bowling Green. The unit is one-story brick-on-masonry with asphalt tile on concrete floor and composition ceiling and roof on steel joists. The windows are metal-sash, interior walls of painted concrete block. A gas forced-air furnace heats the entire unit. City water is available with a septic field for sewage.

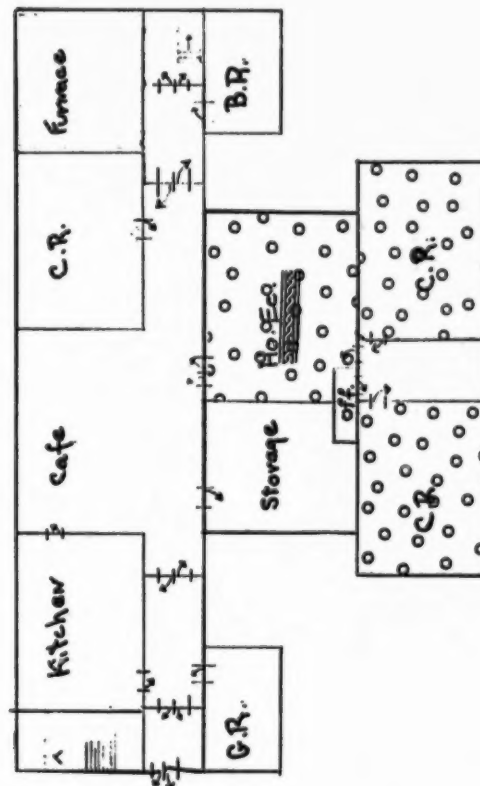
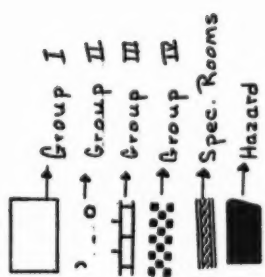
This unit provides: an excellent administrative suite (250 sq. ft. of floor space), three regular classrooms, an attractive kitchen and service area with adjoining washroom,* and 2 student washrooms.**

Two of the "regular" rooms, measuring 423 sq. ft., open into a larger room that measures 618 sq. ft. A covered driveway fronts the main room for the protection of students in the loading zone.

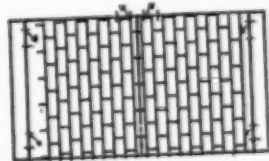
* Employees washroom with 1 toilet and 1 basin.

** Two washrooms with 2 toilets and 2 basins each.

Alvaton



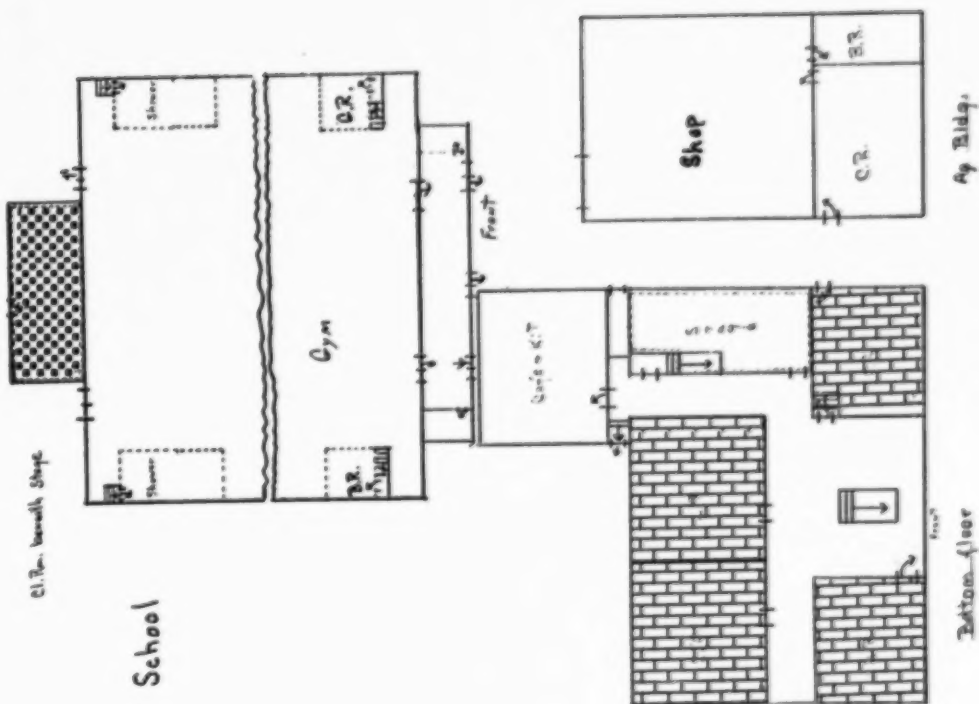
Basenert



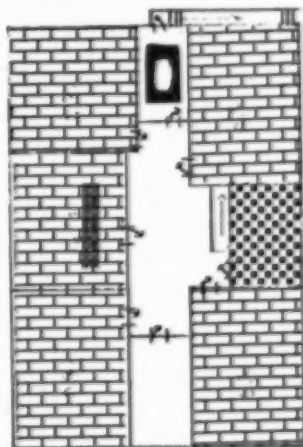
Boyer

Bristow School

Cl. 12m. beneath Shop



Middle Rooms over Sub-Basement



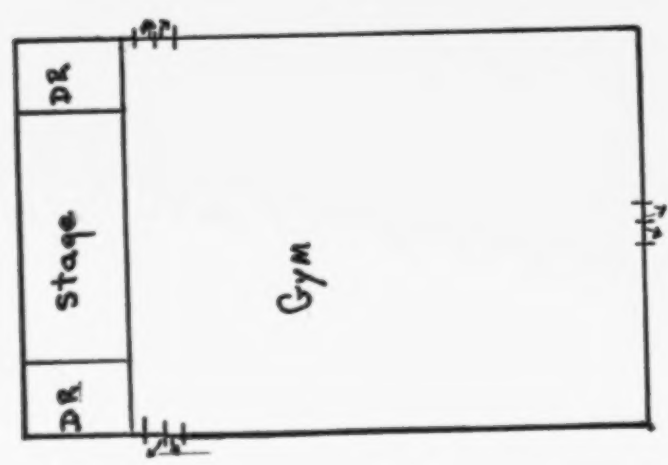
Brickwork - top floor

Delafield School

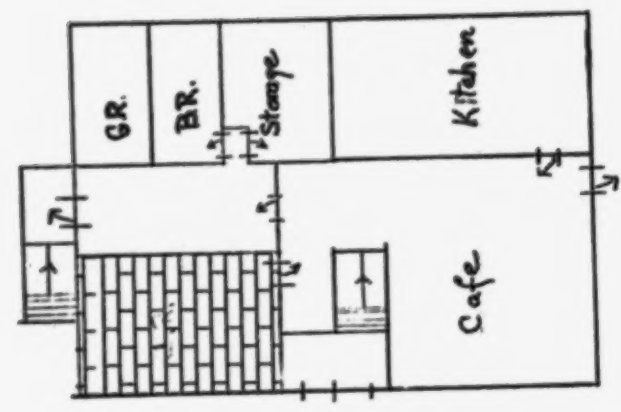


Front View

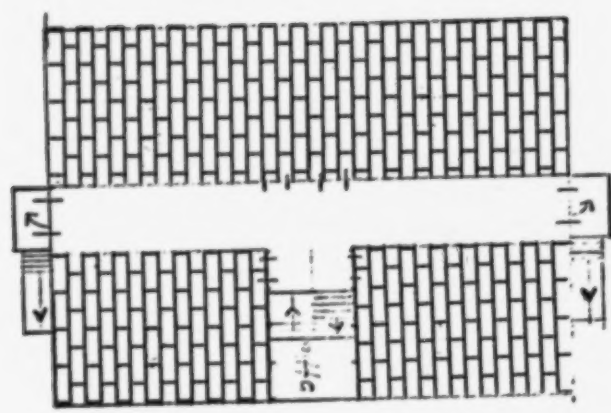
Hodley School



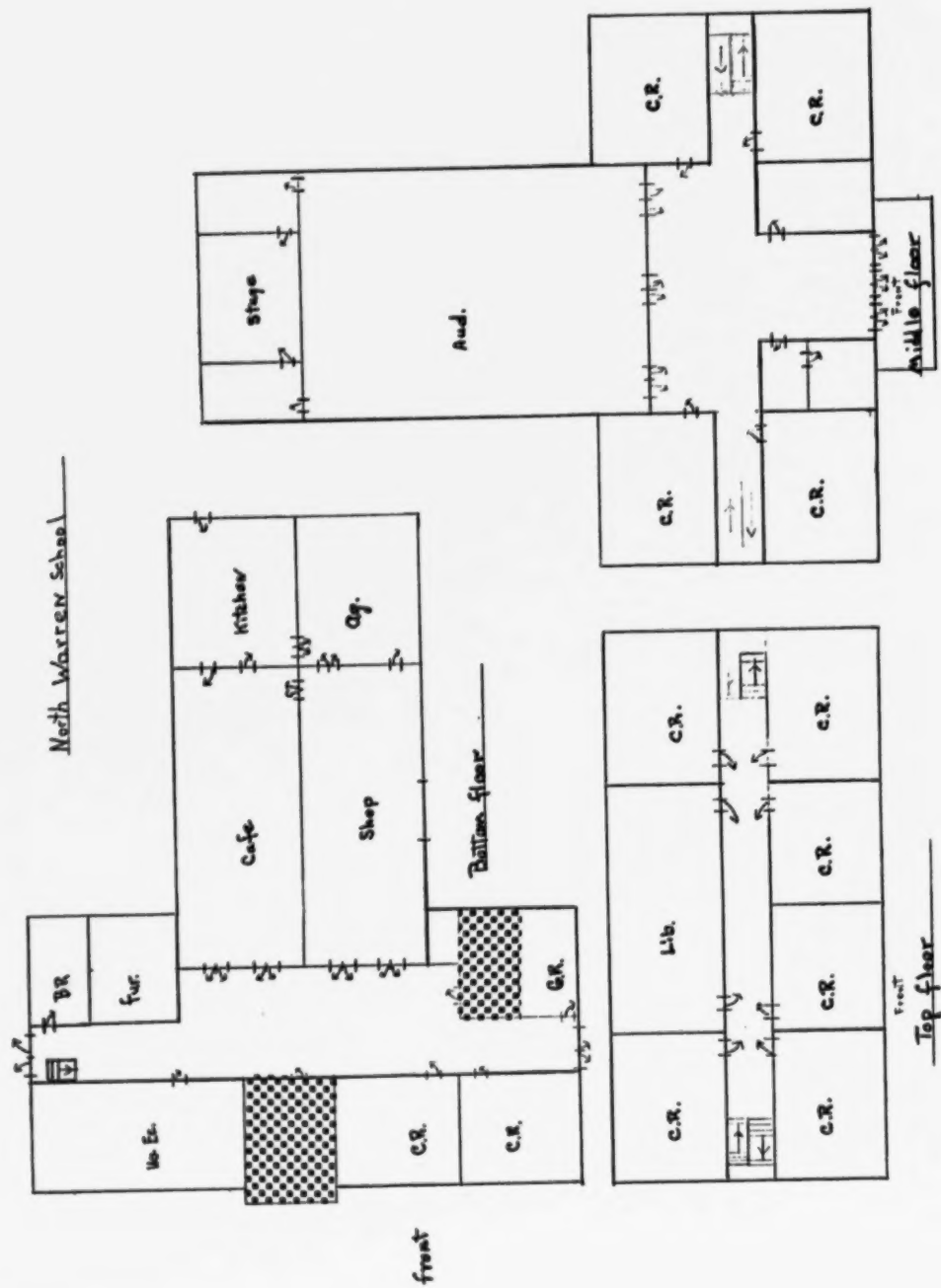
Gym



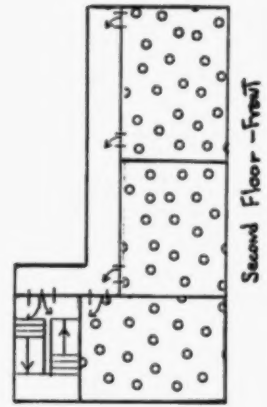
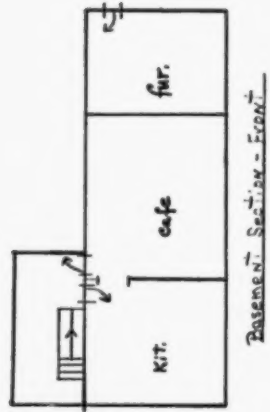
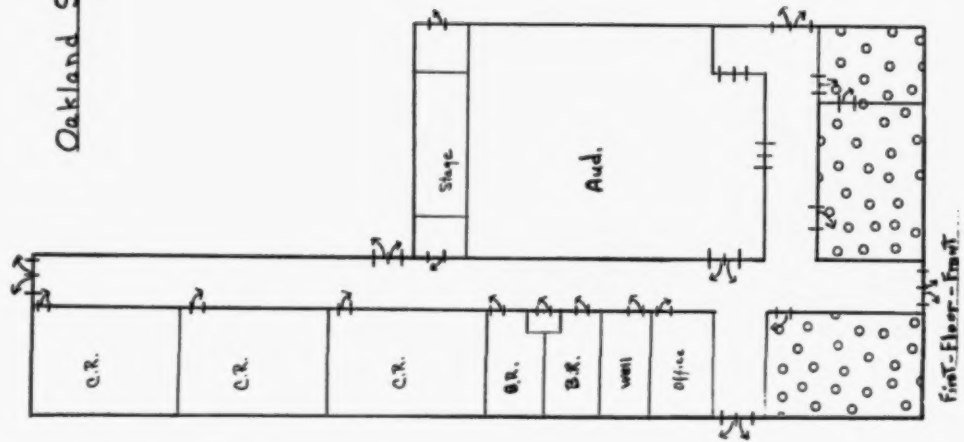
Bottom Floor



Top floor



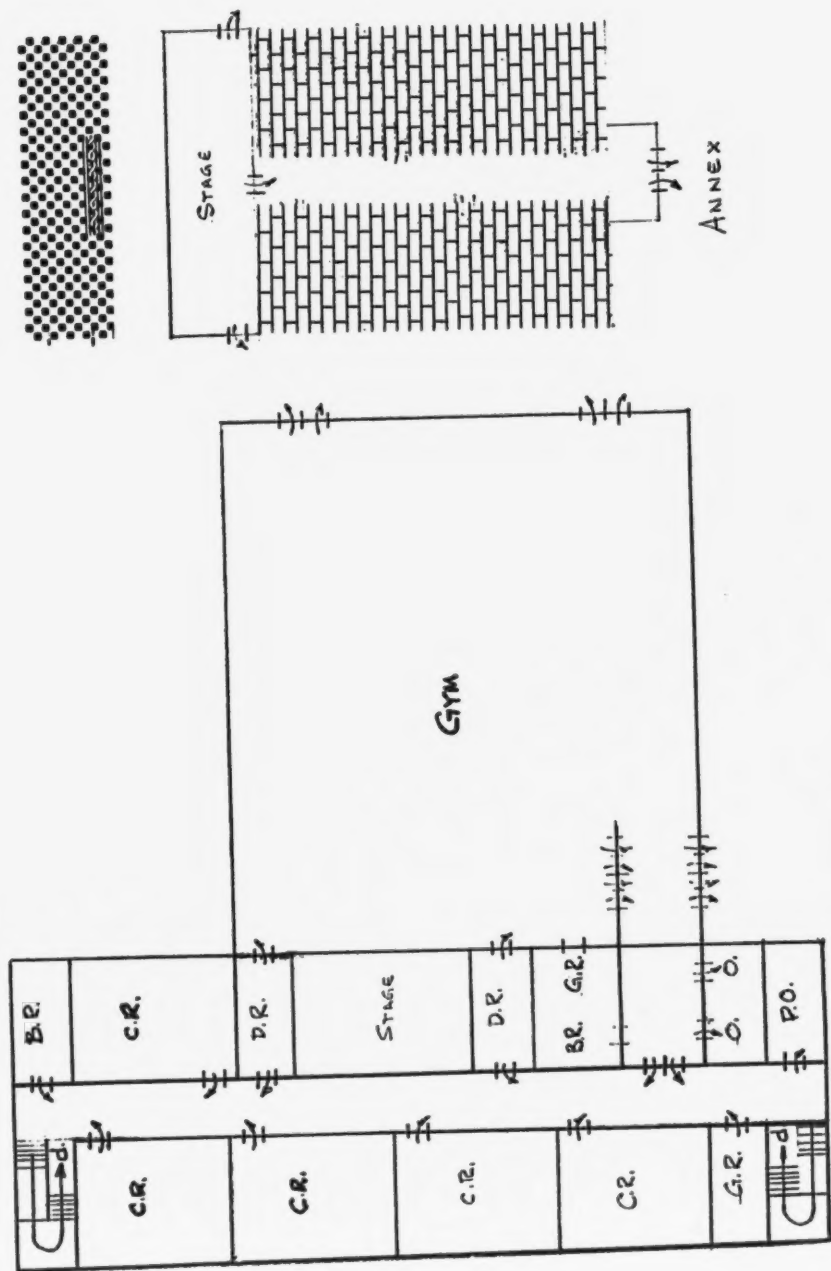
Oakland School



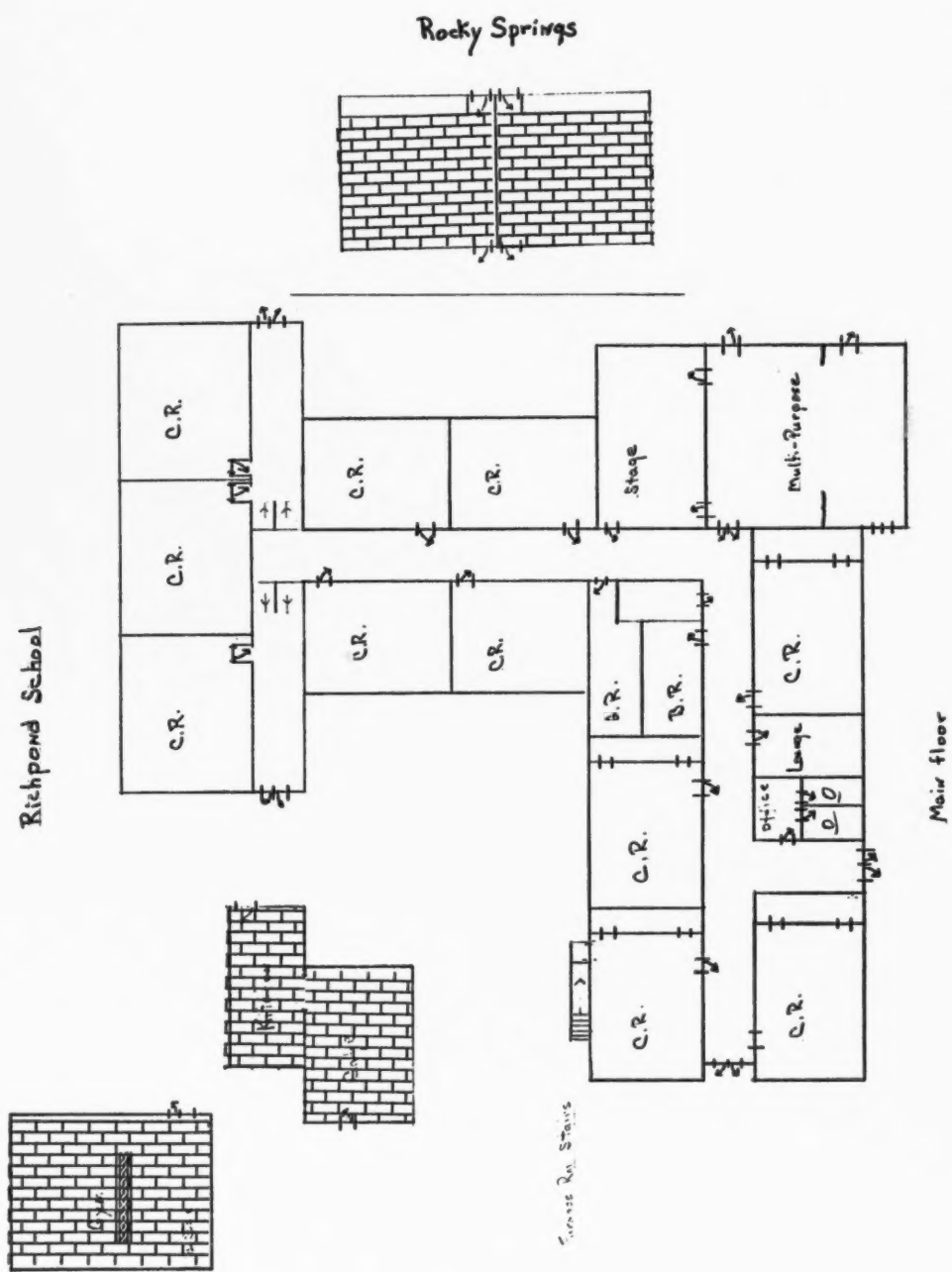
Hand-drawn floor plan of the First Floor. The plan is divided into several rooms and areas. On the left side, there is a long corridor with rooms labeled 'C.R.' (Classroom) and 'G.R.' (Guest Room). At the top left is a 'B.R.' (Bathroom). Below the 'B.R.' is a 'Euc.' (Entrance) area. The central part of the plan is a large 'CAFE' area. To the right of the 'CAFE' is a 'KITCHEN' area. Below the 'KITCHEN' is a 'Storage' area. At the bottom right is a 'G.R.' (Guest Room). The right side of the plan features a long corridor with rooms labeled 'C.R.' (Classroom), 'G.R.' (Guest Room), 'Work Rm.', 'Faculty', 'Over stage', 'Storage', 'Sci. R.' (Science Room), and 'B.R.' (Bathroom). The 'Library' is located at the bottom right corner. The entire plan is labeled 'FIRST FLOOR' at the bottom center.

Third Floor

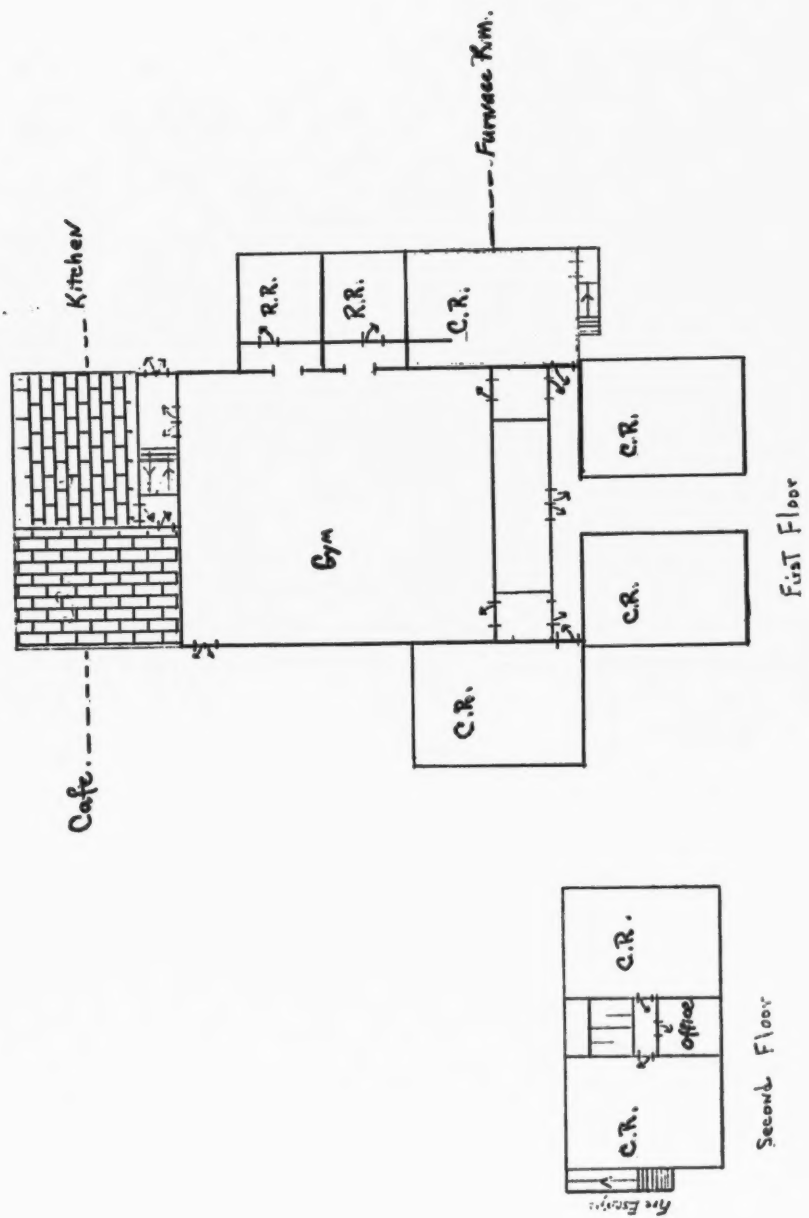
RICHARDSVILLE



MIDDLE FLOOR

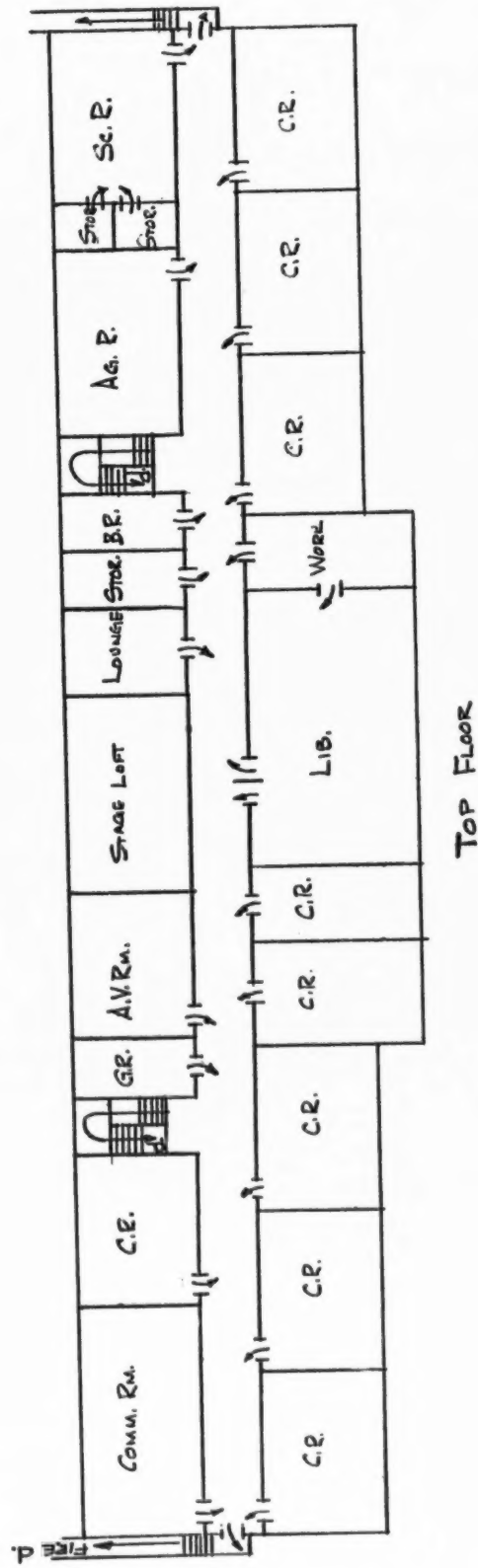


Rockfield School



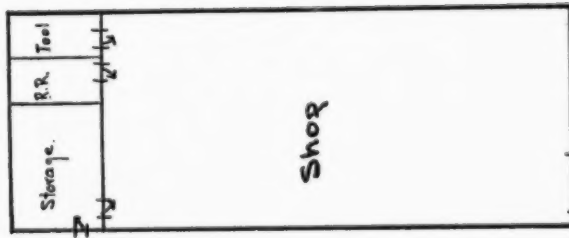
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WARREN COUNTY HIGH

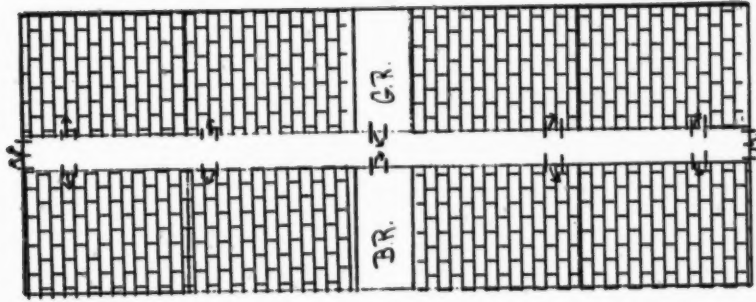


TOP FLOOR

Warren Co. High



Aq Bldg.



Grade School

END-OF-YEAR ENROLLMENT PROJECTIONS TO 1974-75*
WARREN COUNTY--ATTENDANCE AREA, NORTH

Years	Bristow Richardsville										North Warren Oakland 1-8			1-9 Total			9-12 Total			10-12 Total			Grand Total		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1963-64	169	178	164	180	146	177	159	153	1326	150	1476	108	83	440	290	1766									
1964-65	169	159	176	171	179	145	179	152	1330	162	1492	129	91	471	309	1801									
1965-66	169	159	157	182	170	173	147	172	1334	161	1495	139	92	483	327	1822									
1966-67	168	159	157	162	181	169	180	141	1317	182	1499	138	93	533	351	1850									
1967-68	168	158	157	162	161	180	171	173	1330	149	1479	157	106	526	377	1856									
1968-69	168	158	156	162	161	160	182	164	1311	183	1494	128	105	546	363	1857									
1969-70	168	158	156	161	161	160	162	175	1301	174	1475	157	120	557	383	1858									
1970-71	168	158	156	161	160	160	162	155	1280	186	1466	150	98	564	378	1844									
1971-72	167	158	156	161	160	159	162	155	1278	164	1442	160	124	568	404	1846									
1972-73	167	157	156	161	160	159	161	155	1276	164	1440	141	114	551	387	1827									
1973-74	167	157	155	161	160	159	161	154	1274	164	1438	141	117	544	380	1818									
1974-75	167	157	155	160	160	159	161	154	1273	163	1436	141	108	529	366	1802									

*For this table and the two following, first grade projections were arrived at through averaging the rate of change between years from 1956. Other grades reflect mean survival ratios. The years 1962 and 1964 were not used in these computations since they were affected by annexations.

END-OF-YEAR ENROLLMENT PROJECTIONS TO 1974-75
WARREN COUNTY--ATTENDANCE AREA, SOUTHEAST

Years	Alvaton										Boyce			Rocky Spring			9-12 10-12 Grand	
	1	2	3	4	5	6	7	8	1-8		9	1-9		11	12	Total	Total	
									Total	Total		Total	Total					
1963-64	53	86	60	61	54	67	50	56	437	58	545	55	44	31	180	130	675	
1964-65	58	51	89	62	63	58	75	48	504	51	555	49	48	39	187	136	691	
1965-66	63	56	53	92	64	68	65	72	533	43	576	43	43	42	171	128	704	
1966-67	69	60	58	55	95	69	76	63	545	65	610	36	37	38	176	111	721	
1967-68	75	66	62	60	57	103	77	73	573	57	630	55	31	32	175	118	748	
1968-69	82	72	69	64	62	62	115	74	600	66	666	48	48	27	189	123	789	
1969-70	89	78	75	71	66	67	69	111	626	67	693	56	42	42	207	140	833	
1970-71	97	85	81	77	73	71	75	66	625	100	725	57	49	37	243	143	868	
1971-72	106	93	88	84	80	79	79	72	681	60	741	85	50	43	238	178	919	
1972-73	115	101	97	91	87	87	80	76	742	65	807	51	74	44	234	169	976	
1973-74	125	110	105	100	94	94	97	85	810	69	879	55	44	65	233	164	1043	
1974-75	136	120	114	108	104	102	105	93	882	77	959	59	48	39	223	146	1105	

END-OF-YEAR ENROLLMENT PROJECTIONS TO 1974-75
WARREN COUNTY--ATTENDANCE AREA, SOUTHWEST

Years	Warren County Delafield					Hadley			Rockfield Rich Pond			9-12			Grand Total		
	1	2	3	4	5	6	7	8	1-8		1-9		12	Total			
									Total	9	Total	10				11	
1963-64	210	231	189	183	187	165	182	149	1496	182	1678	128	102	95	507	325	2003
1964-65	219	199	229	192	182	187	171	169	1548	135	1683	150	107	93	485	350	2033
1965-66	229	208	198	233	191	182	194	159	1593	154	1747	111	126	97	488	334	2081
1966-67	239	217	206	201	231	191	189	131	1655	145	1800	127	93	114	479	334	2134
1967-68	250	227	215	210	200	231	199	175	1707	165	1872	119	106	84	474	309	2181
1968-69	261	237	225	219	209	200	241	185	1777	160	1937	136	100	96	492	332	2269
1969-70	273	247	235	229	217	209	208	223	1841	169	2010	132	114	91	506	337	2347
1970-71	285	259	245	239	227	217	217	193	1882	203	2085	139	111	103	556	353	2438
1971-72	298	270	256	249	237	227	226	201	1964	176	2140	167	116	101	560	334	2524
1972-73	311	283	267	261	247	237	236	210	2052	183	2235	145	140	105	573	390	2625
1973-74	325	295	280	272	259	247	246	219	2143	191	2334	151	122	127	591	400	2734
1974-75	340	306	292	285	270	259	257	229	2240	199	2439	157	127	111	594	395	2834

PROJECTED CAPITAL-OUTLAY INCOME TO 1974-75 FOR WARREN COUNTY DISTRICT

(With a projected debt service costs by present amortization schedule and balance anticipated to be available for bonding purposes.)

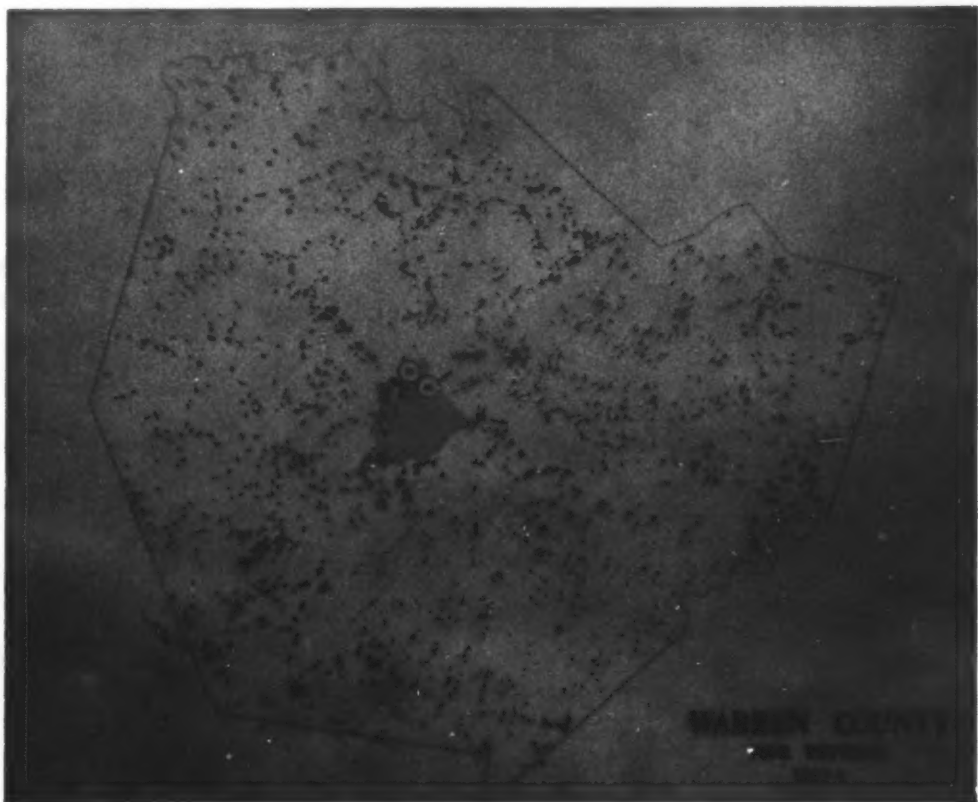
Years	Outstanding Debt	Payments on Principal and Interest	Projected Annual Capital-Outlay Income*	Balance
1964-65	\$ 928,190	\$ 106,407.50	\$ 107,208.00	\$ 800.50
1965-66	821,783	106,977.50	109,164.00	2,186.50
1966-67	714,805	106,387.50	111,144.00	4,756.50
1967-68	608,418	106,770.00	113,508.00	6,738.00
1968-69	501,648	106,970.00	115,440.00	8,470.00
1969-70	394,678	94,108.75	118,572.00	24,463.25
1970-71	300,569	33,743.75	121,542.00	87,798.25
1971-72	266,825	32,871.25	124,242.00	91,370.75
1972-73	233,954	33,982.50	127,596.00	93,613.50
1973-74	199,971	33,040.00	130,950.00	97,910.00
1974-75	166,931	34,081.25	134,976.00	100,894.75

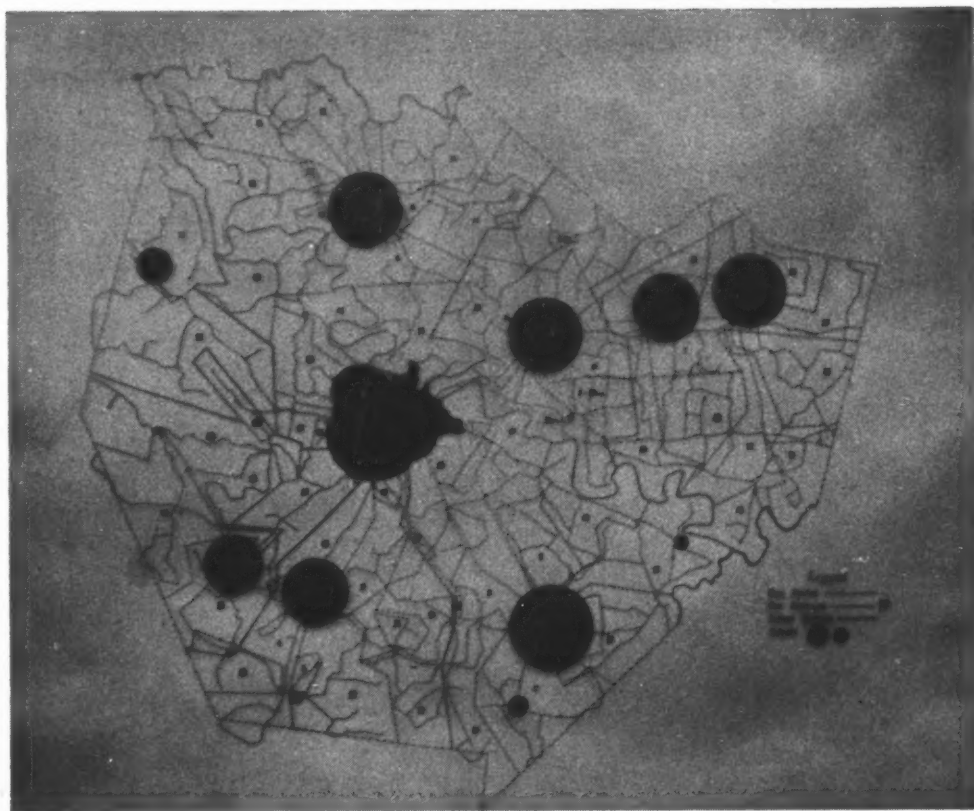
*This projection was calculated as follows: The average number for the last eight years of pupils enrolled per Foundation unit allotted the district was determined (24.87 pupils per unit). The projected enrollment for each respective year was divided by this figure and the result multiplied by \$600, the amount currently earmarked for capital outlay per Foundation unit.

PROJECTED TOTAL ASSESSMENT AND BONDING LIMITS OF WARREN COUNTY DISTRICT, TO 1974-75

Year	Projected Total Assessment*	Projected Bonding Limit @ 8% of Total Assessment
1963-64	\$ 27,997,685.00	\$ 2,239,814.80
1964-65	25,131,126.00	2,010,490.08
1965-66	25,586,540.00	2,046,923.30
1966-67	26,130,817.00	2,090,465.36
1967-68	26,575,124.40	2,126,009.95
1968-69	27,297,123.60	2,183,769.89
1969-70	27,980,245.92	2,238,419.67
1970-71	28,602,276.00	2,288,182.08
1971-72	29,374,259.76	2,349,940.78
1972-73	30,146,243.52	2,411,699.48
1973-74	31,073,734.80	2,485,898.78
1974-75	31,884,595.44	2,550,767.64

*This projection was calculated by: Determining the average amount of assessed value back of each school pupil in the district over the past eight years (\$5,553.84 per pupil), then multiplying this figure by the number of pupils projected to be enrolled each respective year.





THE TOTAL PROBLEM IN REVIEW

Unfortunately, youngsters do not come to school in neat packages of 30 per grade. The principal, particularly in a small school, is plagued with the problem of having four or five too many for Mrs. Jones' room and four or five too few for Mrs. Smith's—when Mrs. Jones and Mrs. Smith do not teach the same grades. Expecting a school to have every classroom used to capacity every day is as unreasonable as expecting the power company to install generators to produce just the *average* amount of electricity, with no margin to cover peak usage. Accordingly, taking a look at the plant capacities *in total* has only theoretical value. Doing so, however, may help to clarify some complex practical considerations.

Theoretical Total Capacity of Warren County School Plants

Obviously, as already explained, what is the "capacity" depends upon the standard applied in defining it. Using the 30-per-regular-classroom "yardstick", the district has, theoretically, space in facilities of *all kinds* for only 3,960 students—assuming that every regular classroom has 30 pupils in it. Since the district had 4,444 pupils enrolled at the end of last year, the plain theoretical deficit was 484 pupil spaces.*

Actually, however, even if all spaces in use last year were acceptable, the deficit is substantially larger. It is not practical, even if it were desirable, for example, to use the two empty classrooms at Boyce and Rocky Springs; and transferring students from one school to another at the whim of enrollment patterns, just to make class sizes come out even, is certainly not justifiable. At least a ten-percent margin should be allowed for flexibility. Also, enrollments at the end of the year, which are used in this report, tend to run substantially below fall enrollments.

Capacities by Reasonable and Realistic Standards

Administering the building program of a school district is partly "hard-headed" economy—or, at least, economics. Partly, however, it is judgment of what is best for the boys and girls the schools are meant to serve. Put another way, it is a problem of how to get the most in educational value for the money spent—which becomes again judgment. Just when is the best time to trade in an old automobile

* These are figures for enrollment at the end of the school year, which tend to be smaller than average daily membership and are therefore conservative.

represents the problem of the school administration in decisions regarding when to replace school plant facilities. We know that ultimately there is a point where it pays to replace the old car—and going beyond that point is false economy. But just where the point is is a matter of judgment which, to an extent, must be arbitrary.

Group I Facilities

The Bureau staff feel that all of the facilities classified as "Group I" represent reasonably sound investments from which the districts may expect to recover benefits for some time. It is not yet time to "trade them in." These facilities, including 74 regular classrooms, provide space—with reasonably well-balanced proportions of "accessory facilities" in the way of special class rooms, sanitary facilities, and site—for 2,220 theoretically. Unfortunately, of course, some of these facilities were overcrowded during the past year.

Group II Facilities

Sixteen more regular classrooms are classified in "Group II." It is time to plan for their "retirement." That is, they are, as some wiseacre has observed, "too good to throw away and too poor to keep." They are the buildings which are approaching a critical point in their maintenance, either because they are old or because they were not built by advanced standards in the first place. Mostly they are wood-and-plaster-interior buildings, with poor lighting (which probably could be substantially improved only by a costly investment in rewiring), some safety hazard, and some hazard of a major repair need (for heating plant, roof, or brick work for instance). They are "respectable" only if well maintained, and their maintenance, like that of the outdated automobile, is likely to be increasingly expensive. Their retirement some ten to fifteen years from now should be planned, both for purely economic and for educational reasons. This means that, in the foreseeable future, some 17 regular classrooms (mostly along with the "accessory facilities" which accompany them) should be replaced. These represent, in practical estimate, spaces for some 510 students.

Group III Facilities

Then, there are 41 "Group III" regular classrooms which, again with accompanying facilities, should be abandoned as quickly as others can be built to replace them. The only justification for not abandoning them immediately is that there appears no better place for the students to go. They could be improved by extensive repair, but the investment would, in our judgment, be very unwise. Spaces for some 1,230 pupils should, therefore, be built immediately to take their place.

Group IV Facilities

The study team observed 3 "regular" classrooms (some 90 pupil spaces) which, it feels, should no longer be used.* The team has received some information that some other spaces not actually meant to be used for instruction have been so used but that they would not be so used in the future. Our feeling is that the spaces specifically classified in Group IV (3 "regular" classrooms and 2 "special" rooms) should be abandoned and that *no facilities not already being used for classrooms* should be converted to classroom purposes. Obviously, the district has no other choice than to "discover" new facilities or double-session more students for the coming year.

Why not use "special" facilities for "regular" classrooms?

The question naturally arises: Why not convert special and "accessory" facilities to classroom use?

The study team is reluctant to recommend any conversion of special facilities (auditoriums, gymnasiums and science, home economics, commerce, agriculture, etc., facilities) to "regular" classroom use because (with the possible exception of gymnasiums) these are already in "short supply," considering especially that classrooms throughout the district *tend to run small!* It is one thing to provide only 22 (instead of 30) square feet for a child in an elementary classroom when library, shop, laboratory, auditorium and gymnasium facilities are available; it is another to so limit him without these.

In fact, we feel that accessory facilities, particularly at the upper grade and high school levels, need attention—as they should get in any new building. The study team, for instance, noted "special" rooms which were hardly recognizable as such except by the name—particularly for the sciences. Some "science" rooms we have simply classified as "regular," for the simple reason that they had no more "science" equipment installed in them than ordinary classrooms might well have. The team saw no "biology" or "physics" or "chemistry" laboratories, for example, anywhere in the system—at least in appearance. We believe that all "special" rooms now in existence are seriously needed for their special purposes and should not be converted to "regular" classroom use. When new buildings are built, they should, of course, include a balance of such facilities along with any new regular classrooms.

Needs Now:

In short, Warren County has in round figures, on a theoretical basis:

*There were two "special" rooms also which should not be used as they are—but for simplification we do not enter them into the calculation here.

- 1) Spaces for some 2,220 pupils in good and reasonably acceptable facilities (Group I) which represent an investment on which the district can expect to realize benefits for some time.*
- 2) Spaces for some 510 additional pupils in facilities (Group II) which should be replaced during the next ten to fifteen years, for both educational and economic reasons.
- 3) Spaces for some 1,230 additional pupils in facilities (Group III) which should be replaced as quickly as new ones can be built.
- 4) Spaces for some 90 more pupils in facilities (Group IV) which should no longer be used, the preferences to doing so being to "double shift" students.

For the coming year, therefore, the County has a theoretical capacity for fewer than 4,000 students. Furthermore, this figure should be reduced to allow for flexibility, as previously explained. Since projected enrollment for the coming year may exceed 4,500 pupils, it appears that some shift should be made to take care of some 800 "extra" pupils.

Needs to 1975

Warren County's school plant needs for the coming decade consist, obviously, of needs to:

- 1) Expand plants to meet current needs.
- 2) Replace facilities which are currently or will by 1975 be obsolete.
- 3) Expand plants over the ten-year period to take care of growth.

The estimates offered here are based on calculations meant to reflect trends of the past decade. Any such calculations are on the assumption: "everything else being equal," or "that present trends will continue." Common sense suggests that this assumption may not obtain, so that any special knowledge (regarding moving in or out of a major industry, for instance) should be considered in relation to the projection offered here. This is to say, there is no "magic" in such projections, no special clairvoyance. They represent the best the study

* Insurance evaluation of school plants of the district, including abandoned buildings which are insured at low figures against fire, extended coverage and vandalism, is for 90% of full value—a total of \$2.9 million in round figures, so that full value may be estimated at a bit less than \$3.2 million: That is, the plants are "worth" about that amount. Unfortunately, the district owes some \$928,000 on these plants. Furthermore, the plants actually provide *adequate* spaces for fewer than 3,000 students (2,730 by formula calculation) though, of course, inadequate facilities provide spaces for 1,230 more. The point is that the district has a very considerable investment in facilities (more than \$1,000 per *adequate* space per child) that are expensive to maintain properly and are a dubious asset in terms of a modern educational program.

team has to offer, however, on the basis of the objective evidence available.*

Below is a table projecting enrollments of the district to 1974-75.

Projected Gross Average Membership in Warren County Schools
(Based on end-of-year enrollments from 1955-56 through 1963-64)

Years	1-8	1-9	9-12	10-12	Grand Total
63-64	3309	3699	1135	745	4444
64-65	3382	3730	1143	795	4525
65-66	3460	3818	1147	789	4607
66-67	3517	3909	1188	796	4705
67-68	3610	3981	1175	904	4785
68-69	3688	4097	1227	818	4915
69-70	3768	4178	1270	860	5038
70-71	3787	4276	1363	874	5150
71-72	3923	4323	1366	966	5289
72-73	4070	4482	1358	946	5428
73-74	4227	4651	1368	944	5595
74-75	4395	4834	1346	907	5741

With a gross enrollment of some 5,741 students anticipated by 1974-75, the district can expect by then to need classrooms for some 1,300 more students than are expected this coming school year.

Of these, some 1,100 will be elementary students which means, at current prices, that a capital outlay of some \$1,100,000 will be needed for housing them. The additional high school students will require an investment of about \$300,000. It appears that in all, therefore, a bit more than \$1½ million will be needed to take care of expanding enrollments in the county in the next ten years, over and above what is needed now. This expansion, of course, will be needed year by year—will not be an abrupt demand at the end (or beginning) of the decade.**

A recapitulation in rough of figures for a theoretical estimate of needs to 1975, therefore, produces this:

- 1) To "catch up" on enrollments now—space for some 800 students for whom facilities do not exist for the coming year \$ 800,000

* Information regarding location of projected water districts and proposed housing developments indicates growth will take place mostly in the area south of Bowling Green.

** No attempt is made here to project costs at prices which may be expected to be higher by 1975. These estimates are based on current price levels which call for a low-average expenditure of \$1,000 per elementary pupil and \$1,500 per high school pupil for plant facilities (including both "regular" classroom and "accessory" facilities).

2) To replace inadequate (Group III) facilities which should be abandoned as quickly as new facilities can be built, space for 1,230 pupils	1,385,000	_____
Total to catch up now		\$2,185,000
3) To replace facilities likely to become obsolete by 1975 (½ of Group II facilities)—space for some 255 students	\$ 285,000	
4) To take care of enrollment expansion of 1300 to 1975	1,400,000	_____
Total to 1975		\$1,685,000
Combined total		\$3,860,000

Resources of The District for Meeting These Needs

At present, Warren County is spending almost all of its capital outlay funds under the Foundation allotment for amortization of outstanding debts. With bonds outstanding in the amount of some \$928,000, annual payments are some \$106,000. A rough calculation of the bonding capacity of the Warren County District reveals, however, that it has a margin under its present tax rate, by some adjustment of its present debt structure, which would permit it to borrow some \$600,000 more for building purposes. As the bonds on such borrowing might be amortized (over, presumably, a 20 year period in which the debt might be gradually reduced and borrowing limits also raised by increased taxable wealth within the district) the bonding power might as the years go by be increased somewhat. If the present debt structure is not disturbed (by the borrowing of that \$600,000, for instance), \$1,300,000 more borrowing power will become available in 1970-71 when debt service payments will be reduced from some \$106,400 annually now to some \$33,700 then—so that some \$91,000 margin will be freed as projected capital-outlay annual income for the district reaches some \$124,000. These figures will change, of course, if present debts are readjusted.

Unfortunately, however, borrowing capacity with present revenue prospects appears likely for some time to fall behind increases in needs from growing enrollment—to say nothing of providing funds for catching up on deficits in facilities now. To illustrate this point, consider the fact that enrollments seem likely to increase roughly 130 pupils per year for the next ten years. Assuming about one-sixth of the increase in the high school students, the need will be to expend about \$140,000 per year for construction “just to keep up.” It seems likely that increased enrollments will by 1968 or 1969, therefore, have used up all the borrowing power available at present—even if the deficits in existing facilities are left untouched. This means that just now the district is like Alice in wonderland who had to “run fast just to stand still.” In fact, obviously the district has not been “running fast

enough to stand still" in meeting growing enrollment needs and maintaining its school plants, so that the present situation is unusually difficult. Unless some unforeseen refinancing plan becomes available, there seems little likelihood of substantial improvement, though some modest increases in borrowing power will occur as capital outlay income increases gradually.

Even so, under present tax rates and assessment ratios, the district cannot hope to extricate itself from its present predicament because of deficits in facilities. The following questions appear to need answers as a basis for some proposed solutions:

- 1) Is the "constitutional" bonding limit of the district high enough to permit borrowing enough to meet needs—assuming willingness of the district to tax themselves enough to meet needs?
- 2) How much tax-rate increase would be required, assuming present assessment ratios are continued?
- 3) How might adjustment in the assessment ratio affect the bonding limit and the borrowing capacity of the district?

The "ceiling" for borrowings of the district we estimate roughly to be just a bit more than \$2 million for the coming year; by 1974-75, it may exceed \$2½ million—assuming, of course, that State Department of Education policy of limiting borrowing to 8% of total assessed valuation is continued. Since the district has an immediate need for more than \$2 million to take care of current shortages and replace out-moded plants, it appears to be a question whether or not the bonding margin (assuming income were available to secure the bonds) is great enough to permit the district to "catch up" now.* A step-by-step approach may be the best solution.

It appears that a tax increase of 50 cents per \$100 of assessed valuation will raise about \$126,000 annually, which would be the basis for issuing perhaps \$2 million in bonds to be amortized over a 20-year period. Such borrowing would be near the limit ordinarily set by the State Department of Education. It appears, therefore, that the best the district might do would be to vote a tax increase for building purposes and borrow up to the limit the State Department will allow, proceeding in planned steps to adjust its debt to borrow in shorter terms, should the debt ceiling become a problem. Since KRS 160.477

* Actually, the constitutional 2% limit on a district's borrowing does not apply, except in a practical sense. The State Department of Education attempts to hold borrowings below 8% of assessed valuation on the assumption that when the assessment ratio is considered the limit will approximate that of the "spirit" of the constitution. On the other hand, the Department has considerable latitude in applying limitation when prospective income of the district is clearly great enough to support higher borrowings.

provides for a tax-rate increase above the current \$1.50 rate of 5 cents to 50 cents for building purposes by referendum, it appears to be the best recourse.

There is, however, one other possibility: An adjustment in the assessment ratio would both increase revenue of the district (theoretically, without affecting Foundation allotments) and raise its bonding limit. An increase of the present assessment ratio (last year only 28.3%, a bit below the state average) to 40%, for instance, would in round figures raise the bonding limit of the district more than \$700,000, or to about \$3 million—more than enough to catch up on immediate needs. Also, it would increase the district revenue from local sources by more than \$120,000 annually—enough to buy almost $1\frac{3}{4}$ million more money than the district can borrow at current rates and assessment ratios. Such an adjustment in the assessment ratio, of course, would obviate any immediate need for a rate increase for building purposes and raise the debt limit high enough to clear the way for sufficient borrowing.

The Picture in General—Summary

Essentially the school plant needs of Warren County appear thus:

- 1) The district needs approximately \$800,000 to expand its facilities to take care of enrollments beyond plant capacities this fall and another $1\frac{1}{2}$ million to replace inadequate, obsolete facilities now in use—a total of something over \$2 million.
- 2) It will need $1\frac{1}{4}$ million, more or less (and likely more), to replace aging buildings in the next ten years and expand plants as enrollments increase further.
- 3) With existing assessment ratios and tax rates, it appears inevitable that the district will fall still further behind, though borrowing power will increase bit by bit. With enrollment increases alone calling for a minimum of some \$140,000 investment in new building annually for the next ten years, and with the income from funds currently earmarked for capital outlay largely mortgaged, the only hope would appear to be a reversal of cost and enrollment trends. The \$600,000 borrowing margin* now available could be used to ease the immediate situation, but the enrollments of the next four years alone will make it inadequate—to say nothing of the current plant replacement needs and the current deficit of some 800 pupil spaces. Also, of course, old buildings go on depreciating and some will need to be retired soon.
- 4) A 5-50 cent additional tax (with assessment ratios and existing tax rates kept "as is") would likely make it possible to meet the needs now. If bonding limits become a restriction, the needs might better be met in planned, orderly steps.
- 5) A raising of assessments to obtain an assessment ratio some 10 per-

* If adjustments in the bond-financing structure are made to permit this borrowing, the time-table of debt reduction and increased future borrowing power will, of course, be changed, depending on what adjustments are made.

centage points above the present level (to 40%, for instance) would solve both the bonding limit and income problems.** With total assessment of the district raised to near \$40 million, the borrowing limit could exceed \$3 million and the increase of some \$120,000 in local revenue which would be "leeway money" would be ample to finance enough borrowing. Unless some agreement could be reached with the county assessor to take such a step, however, this approach to the problem lies beyond the control of the district school board.

Value Considerations in Warren County School Problems *(An Editorial)*

It would be inappropriate to "lecture" or "sermonize" the school administration or the citizenry of Warren County. It would be hypocrisy, however, for the survey team to fail to point out what is a most striking aspect of the whole situation of school building needs in the district: the obvious need for planning. It appears that adaptations to needs have been made with some resourcefulness and even vigor—but, only after the needs have already "happened."

"Temporary" units, for instance, represent makeshifts which in the long run are expensive. It appears, also, that little consideration has been given to reorganizations which might make possible more efficient grouping of students in terms of educational value per dollar spent. Adjustments to immediate and pressing needs sometimes are "penny wise and pound foolish" in education as in other matters.

It is not within the province of this study to make detailed analysis of costs except as they relate to the problem of providing school plant facilities. The matter of location of facilities so that they may be efficiently used, however, is certainly germane. A cursory examination of comparative costs for instruction alone among schools of different size and location exposes a disparity between amounts spent per child. For instance: Hadley, which last year had a staff of 5 for 124 pupils, and Delafield, which had 12 for 377 pupils. Assuming the qualifications of staff to be equal and average salaries for the district to be paid to all, instructional costs at Hadley can be estimated to be almost one-fourth greater per child—and instructional costs usually approximate 60% of the entire school budget. Extremes represented by Boyce and Rocky Spring compared to Delafield, of course, show disparities even greater. Boyce with only 44 pupils for two teachers and Rocky Spring with only 17 pupils may be assumed to have had instructional costs up to 85% greater per child than did Delafield—assuming that lower-

** Such action, of course, is in the control of the county assessor. It is not, however, an altogether unusual step. A few other districts do have ratios of 40% or more.

paid (which means less-well-prepared) personnel are not being assigned to the smaller schools.

The clustering of students into large enough units that per capita educational costs can be kept to a minimum is a prime objective of planning.

The survey team is concerned also, however, with a matter of plain justice. There are obvious disparities in the distribution of school plant facilities in Warren County. It seems reasonable to suggest that there is a considerable injustice in the fact that some Warren County youngsters go to schools which are comparatively adequate and well equipped, while others must attend where double-shifts and only "second class" facilities are available. None of Warren County school plants appear "plush," though some are modern, adequate and attractive—the new Delafield School, for instance. Still, there is a very considerable difference between facilities at Bristow, for example, and those at Rich Pond, North Warren, and some at Warren County High. Also, the fact that the double-shift schedule appears at some schools and not others suggests an inequality in opportunity among areas of the district.

The study team has no background for understanding why such disparities have developed within the same district. The concern here is but to point out these disparities and to suggest that in all justice the total district concern should be to treat all youngsters equally and distribute both the advantages and hardships on a share-alike basis.

CHOICES AVAILABLE TO THE DISTRICT

In general terms some of the choices available to the Warren County School District in its effort to solve its school plant problems have already been outlined. If the children of the district are to have adequate facilities, an increase in local tax revenues by some means or other seems inevitable, unpleasant as such a prospect may be. This tax increase may not necessarily be permanent and might not be necessary now if the district had "kept up" in school construction and were a bit more "average" in its taxing pattern.

Ordinarily a school district expends about 20% of its budget for capital outlay and debt service. Assuming a careful and wise expenditure of funds, a Kentucky district should be able to maintain, replace, and expand facilities to meet enrollment pressures by spending about \$60 to \$65 per year per child in average daily attendance. Warren County might, on this basis, expect to spend \$250,000 to \$300,000 per year for such a purpose. Actually the capital outlay debt service account for 1963-64 was only \$137,585 for the district, this amount representing the Foundation allotment for capital outlay of \$112,920* plus some local "leeway" funds—obviously too small an amount year-by-year to maintain the district's plants properly, replace outmoded units, and provide for enrollment increases in an orderly fashion. Obviously the district must spend more than this amount unless it has some more economical procedure than the average district has.

Can Warren County afford to build the school housing needed for its children?

The answer is a clear *yes*, if comparisons may be made to other districts of like means. For instance, 1960 income figures for the county as a whole (including Bowling Green) placed it 36th among the 120 counties of Kentucky in per capita annual personal income (\$1,375 per person). In taxable wealth per school child in average daily attendance in 1960-61 it had \$5,890, ranking well above average (51st) among the counties—and the amount per student has been changed only slightly in the recent annexation. It pays slightly less of its own school bill (from local revenues) than its rank in ability would justify (is 58th in proportion from local sources). In amount spent per child for current expense, it ranked 87th among the counties—considerably below its ability position, it should be noted—with an

* This allotment will likely be reduced by the recent annexation, so that only about \$107,000 is anticipated for capital outlay next year.

expenditure of \$227 per child. At the same time, its assessment ratio as calculated by the Kentucky Department of Finance was 29.9% (and has dropped a bit since) so that its \$1.50 tax rate, when adjusted in terms of the assessment ratio, was only 45 cents per \$100 of *full value* of taxable property--so that it ranked 175th among the 208 Kentucky school districts in the *actual* tax rate it was paying that year. Its on-the-books tax rate, of course, like that of most of the districts, is the \$1.50 rate allowable without referendum. Almost half of the Kentucky school districts now, however, have a tax rate exceeding the \$1.50 ceiling, two of them having gone to a \$3.00 rate. Such a step becomes a near necessity when assessment ratios are permitted to "water down" assessment values to the point of destroying the foundation of local school support.

Obviously, without a special building tax Warren County must spend "leeway" funds (funds above those it is required to spend to meet its Foundation Program obligations) for buildings, if it is to carry an adequate school plant program. Unfortunately, when the assessment ratio of a district falls below the state average, a higher proportion of its income is required for its share of Foundation funds. This is the situation in Warren County now. If a district has an assessment ratio average for the state, it will have 40 cents of its \$1.50 tax rate for "leeway"; that is, funds not earmarked for particular purposes under the Foundation pattern. Last year Warren County had only 25 cents of its tax rate for "leeway" funds.

The study team is reluctant to recommend diverting to buildings the funds which may now be being used to pay teachers a bit above state minimums, for instance, or to provide extra library books or teaching aids, or to enrich the curriculum by offering instruction not covered by Foundation funds. Particularly, there is hesitation when no time was allowed in this study for any but a cursory glance at the program of course offerings and no observation of program as such. The team recognizes the importance of these aspects of education and would not want them to be "sold out" in favor of physical plant facilities.

It does seem worth suggesting, however, that any regrouping of students to obtain more economical use of staff and facilities, in line with principles previously outlined in this report, might be expected to free funds that might be used for school plant improvements.

Incidental Underlying Recommendations

An important incidental, underlying recommendation has just been suggested: That Warren County, in its efforts to deal with its building needs, not do so at the expense of the rest of its educational pro-

gram. We hold that buildings are a part of a good school program, but only part.

Another suggestion is that careful studies of attendance boundaries and transportation routes accompany any application of the recommendations which follow. The study team obtained what appears to be the latest and most reliable information available on the plans for Route I-65 which will alter transportation patterns in the county considerably.* A reasonable effort has been made to be sure that each proposal offered here is feasible; that is, that transportation arrangements would be workable if the proposal were adopted. The practical details could not, of course, be worked out as part of this study.

Finally, the team urge that, whatever building program the district develops, its plans be made with program and children in mind. New schoolhouses should be built with consideration of how they are to be used. There is a tendency for a report of the kind made here to deal with classrooms as though a *classroom* were a *classroom*, as though they were "interchangeable" whether used for first graders, or ninth graders, or high school seniors, regardless of what use is made of them. Such is far from the case. Preferably and logically, the "educational" specifications come first, then the building specifications based on the educational specifications. When the real questions regarding economy and efficiency in education are answered, they will involve more than anything else the relationship of *learning* to dollars—which suggests that a building may be good in many ways without being good as a "teaching tool."

To build beautiful, "modern," durable school facilities without regard to their use in the educational program may give the community a facade of educational accomplishment and respectability. Unless those buildings are useful in a sound, well planned educational program they are only a mask for wastefulness. The study team urge that, if new school construction is to take place in Warren County as obviously it must, it be preceded by intensive involvement of instructional staff in the planning, with some aggressive educational leadership. The purpose should be to plan the best possible program to take advantage of the rather tremendous capital investment the new buildings will represent.

Recommendations

In light of our findings we propose the following as alternative plans by which the Warren County Board of Education and citizenry

*We are indebted to Mr. William B. Drake, director of the Highway Research Laboratory, University of Kentucky, for detailed information about plans for Route I-65.

may effectively attack the problem of providing adequate school plants to house their boys and girls. The values at issue in each alternative proposed are discussed briefly, partly as reviews of previous discussion. While we of the study team respect the reality that value choices in this instance are both the privilege and the responsibility of the Warren County people and their board of education, we have felt obliged to expose our own feelings in all honesty on some points, assuming our views will be taken only "for what they are worth" as Warren County people see them. If we have clarified the alternatives, and their consequent responsibilities upon Warren County people, our task will, we feel, have been done.

PLAN 1

This alternative calls ultimately for establishment of two grade 9-12 high schools in the county, one to be a continuation of Warren County High School, the other to be a new one located, we suggest, on or near the present Bristow site. Alvaton, Delafield, North Warren, Richardsville, Rich Pond and Rockfield would become grade 1-8 centers. Boyce, Hadley, and Rocky Spring would be closed. A rough timetable for the steps suggested below would culminate some two to three years from now, with intervening steps to take care of immediate problems.

Step 1:

Eliminate all Group IV facilities* and transfer the high school pupils (grades 9-12) at Bristow to any or all three of the North Warren, Richardsville, and Warren County centers, considering convenience of transportation and availability of space. Since some 130 students would be involved, this step would bring enrollments of the school or schools in which they would be placed above recommended capacity levels. The arrangement is acceptable only as a temporary measure until Step 3 is accomplished.

Transferring these students would release space at Bristow so that the upstairs hallway and undersize classroom can be properly used and double-shifting reduced so as to involve not more than two or four classes.**

*Two rooms at Bristow and two at North Warren as indicated in the building diagram section of this report.

** It might be possible to eliminate double-shifting by: (1) Diverting some enrollments to Richardsville, and/or (2) using the Bristow cafeteria or gymnasium for some classes. The present typing room might be used as a library. We suggest that the area now used for the principal's office be given a fire escape and that all rooms be given connecting doors so that exits would be available from any room should the center hall and stairway be blocked.

This step would overcrowd the plants to which Bristow High School students would be transferred, but overcrowding is currently a general necessity. It would reduce or eliminate the double-shifting at Bristow. It would clear the hazardous situation on the top floor of the Bristow building. It would relieve enrollment pressure at the critical point in the district where housing facilities are the most inadequate.

Step 2:

Expand the Bristow site* and build an elementary (grades 1-8) center for some 480 students. It should be located to preserve and make use of the present gymnasium, the remaining existing plant to be removed, except the farm shop. The new unit should be an integrated, balanced plant, not an addition.

Also, add 4 classrooms at Alvaton, so that double sessions there would not be necessary—leaving temporary units now there until Step 3.

Step 2 would eliminate the out-moded facilities at Bristow and provide a center there that might eventually draw students from both sides of Route 31-W, since Route I-65 should be completed by the time the new unit is finished.

Step 3:

Build a new high school (grades 9-12) to house some 600 students on the expanded Bristow site, a complete, integrated, balanced unit to function independently of the elementary unit, preferably set apart physically from it but on the same site so that bus loadings would be convenient.

Also, build a new elementary (grades 1-8) unit for 480 pupils to replace the "temporaries" at Warren County High, and add 4 classrooms to the high school building there. This elementary unit, like the one to be built at Bristow, should be independent of the high school. The rooms added to the high school plant, however, could use "accessory" facilities now in the plant and become a part of it.

Expand the Rich Pond site by about 5 acres and add 5 elementary classrooms and an adequate cafeteria to replace the present one and permit removal of a class from the multipurpose room there. Also, add two rooms at Delafield.

Adjust the 2 rooms at Rockfield which have been classified as

* Purchase should be made to enlarge the elementary site to 10 acres, with option taken to purchase another 25 acres for a high school site if this plan is adopted.

"Group III" so that they have proper exits and become acceptable as "Group I" facilities.

Close Boyce, Hadley, and Rocky Spring and adjust transportation routes to make best use of existing and new facilities. Close and remove any remaining Group III facilities on sites to be used. (See building diagram section of this report to identify these facilities.)

This step would provide a new high school center for students from the areas now served by Bristow, North Warren, and Richardsville schools. Also, it could draw students from Alvaton, since Route I-65, with an interchange near Bristow, will open a way so that Alvaton will be only about 14 miles from the Bristow site with part of the distance expressway. Taking the Bristow students back from the other centers should leave space at Warren County High for most of the Alvaton students, the Alvaton site being only about 12 miles from Warren County High. Students from the Alvaton area, therefore, could be distributed between the two schools to fit facilities and conveniences in transportation. Richardsville, North Warren, and Alvaton would, of course, become elementary centers and Rockfield and Oakland would remain so.

This plan would appear to take advantage of new Route I-65 as a transportation channel which would bring the Bristow site "closer" to areas south of Route 31-W. It would place a high school so that it would be reasonably available to the fastest-growing area of the county south of Bowling Green. It opens the possibility for two "comprehensive" high schools, since by 1974-75 (when the projections indicate grade 9-12 enrollment may reach some 1,350) it should not be too difficult to have at least 600 enrolled in each if enrollments are balanced roughly between them.

Also, we suggest, if the holding power of the high schools of the district should ever approach national averages (as they might if the high schools were given adequate programs to serve a wide range of student needs) the schools might grow considerably beyond what figures here indicate to be likely.

CHANGES UNDER PLAN I

School	"Regular" Classrooms to be Eliminated		"Regular" Classrooms to be Added	
	Grades 1-8	Grades 9-12	Grades 1-8	Grades 9-12
Alvaton (grades 1-8)	6	.....	4	.....
Boyce (close)	2	.....	.....	.....
Bristow (grades 1-12)	7	4	16	20
Delafield (grades 1-8)	.....	.....	2	.....
Hadley (close)	5	.....	.....	.....
N. Warren (grades 1-8)	1	1	.....	.....
Oakland (grades 1-8)	.....	.....	.....	.....

Richardsville (grades 1-8)	4	.....	.....	.....
Rich Pond (grades 1-8)	.....	.....	5	.....
Rockfield (grades 1-8)	.....	.....	.....	.....
Rocky Spring (grades 1-8)	2	.....	.....	.....
(close)				
Warren County (grades 1-12)	10	.....	16	4
TOTAL	37	5	43	24
Total regular classrooms added:			67	
Total regular classrooms eliminated:			42	
Net increase in classrooms:			25	
Net increase in pupil spaces @ 30 per room			750	

NOTE: It seems likely that by the time this plan could go into operation enrollment increases will call for perhaps 10 more classrooms than are indicated above. These should, of course, be built as and where most needed.

PLAN II

Plan II calls for establishment of one central senior high school unit (grades 10-12) for the county, with five centers for both elementary (grades 1-6) and junior high (grades 7-9) programs, and four centers for grades 1-6 only. In other respects it parallels Plan I. The new senior high school plant would be located south of Bowling Green near an interchange planned for Route I-65 and Route 231. This area is roughly the center of greatest population growth in the district.

Step 1:

The first step under this plan would be the same as Step 1 under Plan I outlined above; namely, Group IV facilities should be eliminated and Bristow high school students would be transferred to other centers and "makeshift" adjustments made at Bristow and Alvaton for use of the existing facilities until new ones can be built.

Step 2:

As in Step 2 of Plan I, Bristow should have a new building to replace all but the farm shop and gymnasium, but with two more classrooms (18 instead of 16).^{*} Also if possible, 6 classrooms, instead of only 4, should be added at Alvaton to end the necessity for double sessions there until Step 3 can be completed and Group III units there eliminated.^{**} These extra rooms would be necessary since these centers, along with those at North Warren, Richardsville, and Warren County, would house grades 1-9.

^{*} These units should be planned to make use of the gymnasium and farm shop and should be designed to fit the students respectively at various levels from grades 1 through 9.

^{**} It appears likely that funds for adding all six of these rooms may be a "tight fit."

Step 3:

The new senior high school (grades 10-12) should be built for 800 to 900 students: an integrated, balanced unit so planned that additions would be possible. The district should consider locating there a central administrative office, separate from the school but on the same site. Also, it might consider locating a central bus garage on the site, leaving at least twenty acres for purely school purposes.*

As in Plan I, there should be additional building on the Warren County High site. However, it would need to be for only 9 more elementary rooms, instead of 16 as recommended under Plan I. Three special classrooms can be converted to "regular" use, since the junior high program would not require more than one science room, nor both farm shop and home economics rooms, nor the commerce room. This means that space would be "expanded" by 12, rather than 9, classrooms. The temporary units there, of course, should be removed and the 9 new rooms designed for early elementary students.

North Warren already has adequate space for projected enrollment in grades 1-9, including grades 7-9 from the Oakland area. Relieved of these students, Oakland should have ample space.

Richardsville should have adequate space for grades 1-9, according to projections, and be able to close the existing annex classrooms now classified as "Group III."

Boyce, Hadley and Rocky Spring would be closed as in Plan I.

Delafield should probably have one more room, to give it two each of grades 1-6. With Rich Pond and Rockfield, it should send grades 7 and 8 to Warren County. Rich Pond should then be able to find satisfactory space for a class now meeting in its multipurpose room. An adequate cafeteria-kitchen should replace the one there. The adjustment for proper exits in the two rooms at Rockfield should be done as suggested under Plan I. Any other Group III facilities should be cleared out.

CHANGES UNDER PLAN II

School	"Regular" Classrooms to be Eliminated			"Regular" Classrooms to be Added		
	Grades 1-6	Grades 7-9	Grades 10-12	Grades 1-6	Grades 7-9	Grades 10-12
Alvaton (grades 1-9)	6	.....	.....	6	.....	.....
Boyce (close)	2	.....	.....	.....	.....	.....
Bristow (grades 1-9)	7	.....	4	12	6	.....
Delafield (grades 1-6)	.....	.....	.....	1	.....	.....
Hadley (close)	5	.....	.....	.....	.....	.....

* This idea is a suggestion to go with other plans also.

North Warren (grades 1-9)	1	.....	1	.....	.....	.....
Oakland (grades 1-6)	.....	.....	.....	.....	.....	.....
Richardsville (grades 1-9)	4	.....	.....	.....	.....	.....
Rich Pond (grades 1-6)	.....	.....	.....	5 ²	.....	.....
Rockfield (grades 1-6)	.....	.....	.....	.....	.....	.....
Rocky Spring (close)	2	.....	.....	.....	.....	.....
New High School (grades 10-12)	.....	.....	.....	.....	.....	27
Warren County (grades 1-9)	10	.....	.....	12*	.....	.....
TOTAL	37	.....	5	36	6	27

Total regular classrooms added: 69

Total regular classrooms eliminated: 42

Net increase in classrooms: 27

Net increase in pupil spaces@ 30 per room: 810

NOTE: It seems likely that by the time this plan could go into operation enrollment increases will call for perhaps 8 more classrooms than are indicated above. These should, of course, be built as and where most needed.

PLAN III

Plan III is Plan I with one major modification: It calls for one central four-year high school on a new site, instead of two on existing sites. There are, of course, some minor modifications consequent to this major one.

Steps 1 and 2 would be the same as for Plan I.

Step 3 would call for building a new, integrated, balanced plant for grades 9-12 to be located as suggested in Plan II; that is, near the prospective routes I-65 and 231 interchange south of Bowling Green. This plant should be planned to house some 1,200 students, with arrangements for additions.

Adjustments in existing plants would be the same as for Plan I except, of course, that no high school unit would be built at Bristow and that the Warren County High facilities would be converted for use of grades 1-8 so that no new elementary facilities would be built there. In this conversion, 6 "special" rooms now needed in the high school program could be used as regular classrooms: the agriculture classroom, two home economics rooms, two science rooms, and the commerce room. This would have the effect of "expanding" facilities by 6 classrooms.

* An economy may be accomplished by converting the commerce, one of the science, and the agriculture or the home economics rooms into regular classrooms, as would be reasonable for a junior high program. This would expand capacity by 3 classrooms without any substantial investment. (No such surplus of "accessory" facilities were noted elsewhere in the district.)

CHANGES UNDER PLAN III

School	"Regular" Classrooms to be Eliminated		"Regular" Classrooms to be Added	
	Grades 1-8	Grades 9-12	Grades 1-8	Grades 9-12
Alvaton (grades 1-8)	6	.....	4	.....
Boyce (close)	2	.....	.....	.....
Bristow (grades 1-8)	7	4	16	.....
Delafield (grades 1-8)	.....	.....	2	.....
Hadley (close)	5	.....	.....	.....
North Warren (grades 1-8)	1	1	.....	.....
Oakland (grades 1-8)	.....	.....	.....	.....
Richardsville (grades 1-8)	4	.....	.....	.....
Rich Pond (grades 1-8)	.....	.....	5	.....
Rockfield (grades 1-8)	.....	.....	.....	.....
Rocky Spring (close)	2	.....	.....	.....
Warren County (grades 1-12)	10	.....	6*	.....
New High School (grades 9-12)	.....	.....	.....	40
TOTAL	37	5	33	40
Total regular classrooms added:			73	
Total regular classrooms eliminated:			42	
Net increase in classrooms			31	
Net increase in pupil spaces @ 30 per room:			930	

NOTE: It appears that about 4 more classrooms than indicated above will be needed.

PLAN IV

Plan IV is a duplicate of Plan I, except that instead of placing a second four-year high school on the Bristow site the new facilities would be placed on the present Warren County High Site and joined to the present high school unit to expand it. Essentially, then, it is a plan for one central high school unit to expand it. Essentially, then, it is a plan for one central high school for grades 9-12 on the Warren County site, instead of on a new site as in Plan III.

Steps 1 and 2 could be the same as Plan I.

Step 3 would call for adjustment of existing plants as in Plan I except, of course, for Bristow and for Warren County High. That is, no high school unit would be built at Bristow and, instead of only 4 classrooms being added as in Plan I to the Warren County High unit, 24 should be added with balancing accessory facilities, the effort being to achieve an integrated, balanced unit, not two separate high schools on the same site. At in Plan I, however, the elementary unit for some 480 pupils should be set apart on the site and made "self-sufficient."

* By conversion of special high school facilities to elementary classrooms, there would be a gain of 6 classrooms without additional construction.

CHANGES UNDER PLAN IV

School	"Regular" Classrooms to be Eliminated		"Regular" Classrooms to be Added	
	Grades 1-8	Grades 9-12	Grades 1-8	Grades 9-12
Alvaton (grades 1-8)	6	.....	4	.....
Boyce (close)	2	.....	.....	.....
Bristow (grades 1-8)	7	4	16	.....
Delafield (grades 1-8)	.....	.....	2	.....
Hadley (close)	5	.....	.....	.....
North Warren (grades 1-8)	1	1	.....	.....
Oakland (grades 1-8)	.....	.....	.....	.....
Richardsville (grades 1-8)	4	.....	.....	.....
Rich Pond (grades 1-8)	.....	.....	5	.....
Rockfield (grades 1-8)	.....	.....	.....	.....
Rocky Spring (close)	2	.....	.....	.....
Warren County (grades 1-12)	10	.....	16	24
TOTAL	37	5	43	24
Total regular classrooms added:			67	
Total regular classrooms eliminated:			42	
Net increase in classrooms:			25	
Net increase in pupil spaces @ 30 per room:			750	

NOTE: As in Plan I, it appears that about 10 more classrooms than indicated above will be needed.

Preferences At Issue (Another Editorial)

This report is presented on the assumption that the Warren County Board of Education and citizenry wish to make their school plants adequate to serve the needs of the boys and girls of the county. The desire to do so is, of course, a matter of preferences. It is not the role of the study team to deal with preferences but to deal with the "stuff" out of which preferences are derived or selected. *If the district wishes adequate school plants*, it is the team's task to explain how they may best be obtained and the cost of them. It is not the task of the team to convince anyone that adequate school plants are desirable!

The four choices offered here as proposed plans are meant to respect Warren County people's right to what they "like" in their schools—for these proposals represent in a practical sense the alternatives the study team feel are reasonably available to the Warren County people—assuming they seriously and honestly want to have adequate school plants. Obviously these are not to be had without a price. Furthermore, even with the price, they may not necessarily be obtained unless care and planning go into the way the funds are spent. The proposals here represent four ways—and with care some items might be exchanged between proposals—the study team feel

adequate school plants might be obtained. The team feel that choices among these are more likely to be a matter of preference among Warren County people than among the study team.

Some Matters of Choice

The *decisions*, of course, are the "hard" part. Our task of gathering the information necessary for us to come up with feasible and practical proposals has been much easier than our *decisions* about what those proposals should be. Now we must leave the *worst*, the final, to you, the Warren County school administration and citizens. While our responsibility ends at the water's edge of final decision-making, we are reluctant simply to hand you our recommendations and flee to the safety of our University campus, while you must remain to deal ultimately with the more difficult reality of having to decide.

Therefore, at the risk of getting one foot wet, we should like to conclude with some questions which we hope may serve as guidelines as you deal with the choices ahead of you. Perhaps raising such questions as these will help you:

- 1) What kind of total instructional program do you desire now and in the future for your schools? Should it be strictly academic? Should it provide vocational education? Opportunities for the rare student of special talent and interest in advanced art, music, mathematics, science, for instance? Which plan will best support the program of your choice?
- 2) Which plan will best facilitate staffing and fullest use of teaching staff resources and lend itself to efficient, economical administration and supervision?
- 3) Which plan will best serve the convenience and safety of students and conserve their time—considering also expense of school bus transportation?
- 4) Which plan best adapts existing as well as new facilities to the needs of the given level of students who will use them?
- 5) Which plan will be the best "bargain" in the "long haul"? In immediate as well as long-range costs? Considering capital outlay as well as maintenance, staffing, administration and other costs—and considering educational effectiveness?
- 6) Which plan supports a county-wide concern for the educational program of the district as a whole—as opposed, perhaps, to fostering a more limited "patriotism" of citizens to their own nearby schools, so that there is comparative indifference to other schools of the district and to the district's program in total?

Some idea of how you may apply these and other such questions to the proposals made here may appear in the cursory application of some of these questions in comments which follow in respective order:

Some Comparisons Among Plans

- 1) In general, a larger high school can offer a wider range of courses at lower cost—is more likely than a small one to be able to

get large enough clusters of students interested either in advanced courses or special activities to be able to set up special classes or activity programs. One study the Bureau of School Service made, for example, indicates that a high school of 1,000 enrollment may have some 300 pupils taking foreign languages, so that two teachers can be kept busy. It is difficult for a school much smaller to offer more than one foreign language in any depth—that is, more than one year of each language—without excessive per-pupil costs.

A broader range of course offerings and activities in the high school is more likely to be available under Plans III and IV than under Plan I or even Plan II.

The junior high program is conceived as a "bridge" to better orient adolescents toward the senior high school experience by giving them some experience with special subject instruction before they reach the tenth grade. It represents an attempt to adapt school programs to the needs of the early adolescent. It is the trend in school organization across the nation. A consideration, however, is that the five junior high schools proposed in Plan II will be small ones, so small that there may be difficulty in obtaining specially prepared teachers. For instance, can the district find five well-prepared algebra teachers for the ninth graders in five different junior high schools, when not more than two would be needed if they were in one school? On the other hand, retaining the ninth grade with grades 7-8, where the district already operates a departmental program, seems likely to enrich grade 7-8 offerings by providing a larger corps of teachers who can divide up assignments so that each teaches, perhaps in all three grades, that for which he is best fitted by preparation and interest.

Obviously, the kind of program desired affects the alternative to be chosen.

2) The problem of staffing is involved in the problem of programming. As just explained, specialized personnel are likely to be both more easily recruited and more efficiently used where enrollments are larger—again suggesting advantages of Plans III and IV over the other two, especially Plan I. Small schools often must use a specially prepared teacher for one or two periods a day teaching his specialty, then have him "piece out" his day teaching something of minor interest to him or for which he is less well prepared.

Efficient administration and supervision comes out of having people given assignments which are "not too big . . . not too small . . . but just the right size." Also, the more "compact" the assignment a person has, the more effectively he may perform it. If he has to deal with a conglomerate of unrelated matters, he is not likely to be able

to plan well or focus his efforts on matters in priority order. Generally, administration costs may be reduced as a district becomes integrated and central-staff operation can be routinized. The less "sub-divided" the district operations, the more likely they are to be efficient. Obviously, these principles support Plans II, III and IV as opposed to Plan I.

3) Distances from one part of Warren County to another are not great today, considering road conditions. The serious problem, however, is traffic. Getting to Bowling Green is comparatively simple. Getting through or around it is another matter, though it seems likely by-passes will soon be built and Route I-65 will relieve some congestion.

The study team made a rough calculation of one aspect of the transportation problem: How many students, under each plan, would be required to ride the school bus through Bowling Green on the route to and from school, assuming completion of Route I-65? Estimates, based on current enrollments were:

Plan I: Approximately 100 students in grades 9-12 from the Alvaton area who would be attending Warren County High would be required to go through the city.

Plan II: About 200 Warren County High area students in grades 10-12 attending the new central three-year high school south of the city would go through it.

Plan IV: Some 650 students in grades 9-12 from the Alvaton, Bristow, Richardsville, and North Warren areas would be transported through Bowling Green to the Warren County High site.

The effect of the new Route I-65 upon the system of pupil transportation in the county should not be overlooked in consideration of the plans offered here.

4) Ideally the Warren County district would rebuild many of its buildings to fit them to modern programs as well as children. Some of the schools used for the early grades do not have low banisters, short stair risers, low window sills, lower toilet bowls, and the like, to fit the early elementary children physically. They were built when buildings were not ordinarily modified to fit different levels and tend to represent adult or upper-grade standards. Accordingly, wherever possible, the study team has recommended that new facilities added to a plant be for early elementary grades and be appropriately designed. There is some justification, therefore, for supporting the plan which emphasizes more building at the elementary level, leaving older facilities to the upper levels. Plan IV, for instance, which would give

the Warren County High plant to grades 1-8, has the disadvantage that small children would be in a plant which, though a good one, was not designed for them.

Conversely, Plan II provides some advantages. It moves grades 7-9 up to make use of facilities which fit them comparatively well. The gymnasiums and special facilities of the five existing high schools are rather appropriate for junior high use. Since a three-year high school would require less construction than would a four-year, comparatively more building could be done at the early elementary level under Plan II.

5) In general, more will be got for the money the more "big package" buying is done—though investments must be carefully planned and efficient organization developed to make best use of the opportunities the bigger package represents. Some general calculations made the four proposed plans close enough together in initial price that other considerations than cost should probably govern the choice. A formula calculation produced these prices:

(The formula was: \$45,000 for a high school, \$30,000 for an elementary classroom—with all accompanying "accessory" facilities: \$13,000 for an added high school, \$14,500 for an added elementary classroom—without accessory facilities.)

Plan I:

11 elementary rooms added	\$ 159,500
32 elementary rooms (16-room units) at Bristow and Warren County)	960,000
4 high school rooms added	52,000
20-room high school unit	900,000
	\$2,071,500
10 additional rooms probably needed	145,000
	\$2,216,500*

Plan II:

9 elementary rooms added	\$ 130,500
27 elementary rooms (18-room unit at Bristow, 9-room at Warren County)	810,000
27-room high school unit	1,215,000
	\$2,155,500
8 additional rooms probably needed	116,000
	\$2,271,500

* Note that the over-all estimate for "catching up now" (made earlier in this report) was \$2,185,000. The figure here, of course, is an estimate for approximately three years from now when the plan might go into effect.

Plan III:

11 elementary rooms added	\$ 159,500
16-room elementary unit at Bristow	480,000
40-room high school unit	1,800,000
	\$2,439,500
4 additional rooms probably needed	58,000
	\$2,497,500

Plan IV:

11 elementary rooms added	\$ 159,500
32 elementary rooms (16-room units at Bristow and Warren County)	960,000
24-room high school unit	1,080,000
	\$2,199,500
10 additional rooms probably needed	145,000
	\$2,344,500

6) It is possible that Plan II, with provisions for junior high schools where the five high schools are now located, might preserve a degree of the community loyalty which we presume now exists around each of the five high schools. Such loyalties have certain values—*so long as they do not abridge a higher loyalty to the school district as a whole.*

It seems to the study team that district-wide concern is a real problem in the Warren County district. It is surprising that the remainder of the district have appeared comparatively unconcerned when annexations have nibbled away at their territory, surprising that parts of the district have been permitted to "secede" with so little "civil war"—and these annexations approved by State authorities whose urgencies generally have been in just the opposite direction; namely, toward annexing independent to county units, instead of joining county territory with independent units. As observed earlier, the disparities in quality of facilities, too, have suggested that one part of the school district does not care about the other, or that the "right hand knoweth not what the left hand doeth." We can explain such things only as indications that Warren County people simply have little total school district "patriotism."

Loyalties of school districts center about schools, upper level schools particularly, perhaps because their more glamorous activities draw loyalties. One high school instead of two or more, we suggest, might tend to make the district a unit. This consideration supports plans II, III and IV.

Perhaps it is worth reflecting that some preservation of old loyalties may facilitate building of a broad new one. If so, Plan II has some preference. Perhaps, also, loyalty would be more easily built around a new school than an old one identified with a particular section of the district. If so, Plans II and III have preference over IV.